Southern Bell

JUNE 1970

COIN SERVICE MANUAL

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COIN COLLECTORS/COIN TELEPHONE SETS

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506-050-905SB	B	Coin Collectors-Special Signal Control
Add.506-110-200SB	H	Coin Collectors/Coin Telephones-Installation
506-110-200	7	Coin Collectors/Coin Telephones-Installation
Add.506-110-301SB	C	Coin Collectors/Coin Telephones (Prepay Multi-slot)-Maintenance
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506-326-200	2	Coin Telephone Set - 1A1 - Installation and Maintenance
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508-100-100	2	Electrical Grounding and Wiring Requirements - Booth - Metal
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508-115-200	2	KS-19206 Booth-Installation
Add. 508-120-200	1	Shelves-Indoor-19 and 20 Types-Installation and Maintenance
508-120-200	1	Shelves - Indoor - 19 and 20 Types - Installation and Maintenance
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MC Initial

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508-470-200	4	Walk-Up,Drive-Up, Public Telephones - KS-19426 Mounting Installation and Maintenance
Add.508-710-101SB	B	Directory Hangers, Fasteners, and Binders - Identification and Installation
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COIN TELEPHONE MAINTENANCE CHECK

MULTISLOT

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1. GENERAL

1.01 This section supplements Section 506-110-301 entitled COIN COLLECTORS/COIN TELEPHONES — (PREPAY-MULTISLOT) — MAINTENANCE.

1.02 It is intended that this booklet be used as an on-the-job reference for performing routines and clearing trouble in dial, prepay, multislot coin stations. For detailed maintenance procedures see section referenced for the particular work operation.

1.03 *A Coin Collector* requires a subscriber set to provide talking and ringing components whereas a *Coin Telephone* has all components within one housing.

1.04 When trouble cannot be cleared, report it to the test desk and place a KS-7991 out-of-service sign or an E-4914 tag over coin gauge. Sign or tag shall be removed when service is restored. Return sign to agent.

1.05 *Dial Prepay Service:* When a coin collector is in an idle state, the central office line circuit furnishes battery on the ring side of the line with the tip side open. When a coin or coins amounting to the initial rate are deposited, and the handset is off-hook, a coin ground causes the central office line circuit to operate over the ring side of the line (ground-start). Operation of the line circuit connects ground to the tip and prepares the line for dialing over tip and ring. When the call is completed and handset is on-hook, collect (+) or return (—) current is applied to both sides of the line at the central office. The primary circuit in the coin collector being open causes the current to flow over the tip side of the line, through the coin relay to ground. The coin relay operates to refund or collect the deposit.

1.06 *Telephone Circuit:* The talking circuit in a multislot coin instrument is generally the same as used in conventional telephone sets, except for the addition of two signal transmitters and an electromagnet in series in the primary circuit.

2. TOOLS, GAUGES, CORDS, AND MATERIAL

2.01 The following tools, gauges, cords, and material may be required, in addition to those normally carried, to perform work operations outlined in this booklet.

Item	Use
139B Tool	Leveling coins
265C Tool	Burnishing contacts
376A Tool	Dental mirror for viewing contacts
466A Tool	Adjusting housing contacts
528A Tool	Removing foreign material from locks

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Item	Use
641A Tool (2 req'd)	To facilitate mounting dials
710A Tool	Removing Switch Hooks (corner mounts)
719A Tool	Open door — 235-, 1235-type coin telephones
KS-14995 Tool	Trap and vane release test
KS-6320 (orange stick)	Removing stuck coins
KS-14164 brush	Cleaning washer reject mechanism
KS-13786 nylon brush	Cleaning coin return
No. 6 sash brush	General cleaning
146B gauge	Coin relay bias margin test
178A gauge	Gate operating arm adjustment (shaft type)
178B gauge	Gate operating arm adjustment (yoke type)
P10B cord	Connecting lower to upper housing (236-, 1234-type)
P11C cord	Connecting door to housing assembly (235-, 1235-type)
Form E-4914 or KS-7991	Out-of-Service tag or sign
KS-2423 cotton twill cloth	Cleaning
KS-7860 petroleum spirits	Cleaning
KS-14774, L1 grease	Lubricating
KS-16601, L1 paper	Cleaning
KS-16750, L2 releaser	Removing dial finger wheels
KS-19094, L1 or L2 antiseize compound	Security locks
No. 320 aluminum oxide cloth	Cleaning housing contacts
P-12A745 spacer	Reduce upper housing vertical play
Tinnerman clips (C-29313-012-445) (C-3412-020-38)	Upper to lower housing ground clips
Pipe cleaners	Cleaning coin gauges
Lead pencil (2B or softer)	Lubricating switch hook and coin release mechanism
Paper clip	Dial shorting

3. TEN-STEP COIN STATION ROUTINE

3.01 The ten-step routine outlined on the following pages is designed as a reference check list for the inspection of coin stations on installation and repair visits.

3.02 The question of when to perform the routine is of concern to those whose efforts are directed to improving coin service by reducing repeated reports. The following guidelines are in keeping with this objective:

When to Perform the Complete Ten-Step Routine

(a) Upon installation of a coin station

(b) On repeated reports for which trouble cannot be found by the usual maintenance procedures

(c) Before closing out the following type reports as "FOUND OK OUT."
— "COINS DON'T RETURN"
— "NO DIAL TONE — COINS DON'T RETURN"

When to Perform Specific Steps of the Routine

(a) Steps 1, 2, 3, 4, 5, 9, and 10 are required as part of each repair visit for all trouble reports.

(b) Steps 6 and 8 are required, in addition to (a) above, as part of the investigation of "Coins Don't Return" and "No Dial Tone" reports.

(c) Step 7 is required to update the measurement records on the test center line card and on repeated "Coins Don't Return" reports.

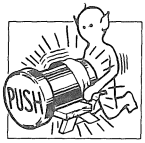
3.03 When trouble reports continue after repeated routine visits have been made, additional assistance and/or central office investigation may be in order rather than continued routines of the station.

3.04 The ten-step coin station routine is as follows:

1. Inspection Before Removing Upper Housing or Opening Door

Inspect:	*BSP Reference*
(a) Dial operation	
• Operates smoothly without slipping or skipping	
• Does not bind on return to normal	
• Finger wheel not cracked	
• 6- and 8-type dials (rotary)	501-162-100
• 25-type dials (TOUCH-TONE®)	501-164-105
(b) Coin deflector	506-110-301
• Securely in place	
(c) Handset	
• Locked caps	501-210-101
• Cracked caps or handle	
• Antifraud transmitter unit	501-230-100
• Antifrost transmitter cover	506-110-301
• F-type handsets	501-210-101
• G-type handsets	501-210-102
(d) Armored Cord	506-110-103
• Secure at handset and instrument	
• Armor intact	

Inspect:	*BSP Reference*
(e) Housing	
• Appearance	506-110-301
(f) Number cards	501-150-100
• Correct telephone number	
(g) Instruction cards and holders	506-110-101
• Securely in place	
• Instruction card present	
(h) Pull bucket	506-110-301
• Properly secured	
• Operates freely	
(i) Coin release button	506-110-301
• Operates freely	



2. Operation Tests Before Removing Upper Housing or Opening Door

Note: Refer to Trouble Analysis (Table A) when operation tests fail.

- Coins required: 3 nickels, 1 dime, 1 quarter
- BSP reference: Sections 506-110-100 and 506-110-301

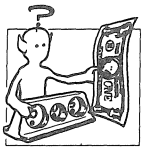


Table A Trouble Nos.	
(a) With handset off-hook:	
(1) Deposit nickel	1, 2
• Nickel should be held at holding latch	3, 4
(2) Depress switch hook	
• Nickel should be returned	5
(b) With handset off-hook:	
(1) Deposit nickel	
(2) Depress coin release button	
• Nickel should be returned	6
(c) With handset off-hook:	
(1) Deposit nickel	
• Check for no dial tone	7
(2) Deposit second nickel	
• Check for dial tone	8
(3) After dial tone, deposit third nickel	
• Nickel should strike coin signal gong	9, 12
(4) Hang-up	
• Three nickels should be returned	10
(d) Check for receiving and breaking dial tone with each of the following:	11
• 2 nickels, 1 dime, 1 quarter	

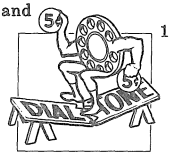


TABLE A

TROUBLE ANALYSIS

200 AND 1200 SERIES COIN COLLECTORS/TELEPHONES

No.	Trouble	Possible Cause	Remedial Action
1	Coin gauge will not accept coins	Stuffed coin gauge or twister	Clear coin gauge or twister (do not use metal tool)
2	Dial tone without deposit	Full coin receptacle	Level coins and notify coin collection department
		Defective coin relay	Replace
		Foreign ground	Check relay, protector, and wiring
3	Nickel returns or sticks at reject mechanism	Loose star wheel shaft	Replace upper housing
		Loose or defective reject frame	
		Blocked switch hook	Clear

TABLE A (Cont)

No.	Trouble	Possible Cause	Remedial Action
4	Nickel returns or sticking at latches or gate	Sticking latches or bent gate lever	Replace coin chute.
		Gate operating arm or support bracket out of adjustment	Adjust, using 178-type gauge
5	Nickel does not return when switch hook is depressed	Gate operating arm out of adjustment	Adjust
		Coin return path blocked	Clear coin return path
6	Nickel does not return when coin return button is depressed	P12A666 stop bracket loose or missing	Tighten or replace
		Stuffed coin chute	Clear or replace coin chute
7	Dial tone with nickel deposit	Latching or holding latches sticky or out of adjustment	Replace coin chute
8	No dial tone for ten cent deposit	Blocked or dirty coin chute	Replace coin chute
		Handset transmitter or receiver unit removed or defective	Replace handset
		Dial pulsing contacts open	Replace dial
		Switch hook contacts not making	Adjust or clean contacts
		Hopper trigger contacts not making	Clean and adjust or replace coin relay
		Dial off-normal contacts not making	Replace dial
		No local ground	Check for tight connection to proper ground
		Defective internal wiring or loose connections	Check continuity of wiring and transfer contacts
		Central office overload or trouble	
9	Third nickel does not reach coin relay trap	Defective electromagnet or sticky armature arm	Replace coin chute
10	Coins not returned by coin relay when handset is placed on-hook *	Coin relay not functioning properly.	Check selector card for foreign particles, clean contacts, or replace coin relay
		Poor ground and/or connections	Correct
11	Can't break dial tone	Coin relay dial-shorting contacts not breaking	Adjust or replace coin relay
		Dial pulsing contacts not functioning properly	Replace dial
		Short caused by defective wiring	Check wiring in set
12	Improper coin signal tones	Defective coin signal transmitter	Replace
		Signal gongs improperly positioned	Adjust

TABLE A (Cont)

No.	Trouble	Possible Cause	Remedial Action
12 (Cont)	Improper coin signal tones	Broken or shorted signal transmitter leads	Repair leads or replace signal transmitter
		Dial off — normal contacts not restoring	Replace dial
		Wiring improperly dressed against gongs	Dress wires properly
		Coin chute capacitor (452B) open	Replace
13	No ring back or low volume	Defective ringer or leads	Replace ringer
		Ringer out of adjustment	Adjust ringer
		Open ringer capacitor in network	Replace network

*On trouble reports of coins collected or returned in error, try to obtain area code and telephone number of *called* party to facilitate tracing trouble in central office.

3. Inspection After Removing Upper Housing

Note: Remove handset from switch hook before removing upper housing. Careful removal of upper housing may facilitate locating coin troubles.

Inspect: — *BSP Reference*

(a) All wiring for tight connections

(b) Dressing of wiring and cords

- Free of spring contacts
- Not touching coin signal gongs

(c) Bolt or stud fasteners — 506-110-103

- Insulator in place — 506-110-103
- Antiseize compound on threads — 506-110-301

(d) Ground clip on upper housing — 506-110-200

(e) Ground wire from coin relay to lower housing (except 235- and 1235-type coin telephones) — 506-110-200

(f) Coin gauge — 506-110-301

- Dirty, sticky
- Blocked
- Corroded

(g) Washer reject mechanism — 506-110-100

- Free operation of starwheels

(h) Housing contacts — 506-110-301

- Dirty
- Out of adjustment

4. Coin Chute Assembly

Inspect: — *BSP Reference*

(a) For dirt, sticky or greasy substances, foreign matter — 506-110-301

- *DO NOT CLEAN CHUTE*
- Replace chute, not housing

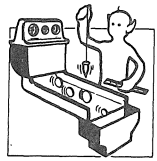
Note: Use only an orange stick or nonmetallic tool to remove stuck coins and foreign matter.

(b) For damaged or corroded holding and locking latches, electromagnet, and gate — 506-110-301

- Replace chute, not housing

(c) Chute and coin twister alignment — 506-321-100, 506-110-301

- Suspect chute alignment if coins are found beside relay or stuck between bottom of chute and hopper.



5. Switch Hook Operation

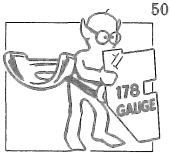
Note: (a), (b), (c), and (e) do not apply to 235- and 1235-type coin telephones.

Inspect: — *BSP Reference*

(a) Vertical and lateral movement — 506-110-301

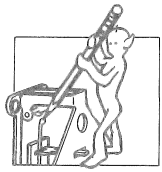
- Loose sleeve

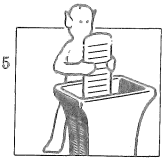
Inspect:	*BSP Reference*
(b) Spring pileups • Alignment • Tension • Tightness	506-110-301
(c) Contacts • Dirty • Pitted	506-110-301
(d) Gate operating arm adjustment • Check adjustment with 178-type gauge	506-110-301
(e) Unblockable switch hook (D-180009 switch hook conversion kit) • Bushing not binding • Shaft not bent	506-110-103



6. Coin Relay and Hopper Operation

Inspect:	*BSP Reference*
(a) Ground contact and dial shorting contact springs • Clean • Properly adjusted • Lubricate surface between trigger and contact spring with 2B, or softer, lead pencil	506-110-301
(b) Selector card magnets and pole piece extensions • Remove foreign magnetic particles and dirt.	506-110-301
(c) Operation of trigger, trap, and vane • Perform trap and vane release test with KS-14995 tool.	506-110-301





(d) Coin relay bias margin test:

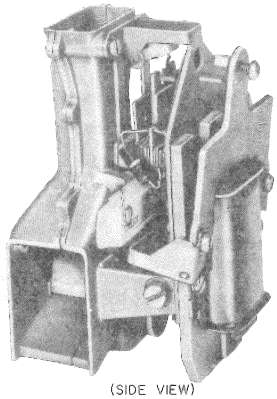
(1) Call testdesk and request a bias margin test of the coin relay (use central office test circuit where available).

Note: Do not operate coin relay armature without first depressing selector card.

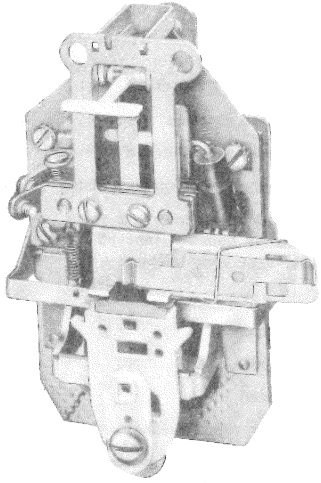
(2) Slip 146B bias margin gauge (Fig. 1) over left pole piece extension arm from left side of coin relay (Fig. 2).

Fig. 1 — 146B Bias Margin Gauge

(3) Request deskman to perform operation (collect or return) appearing in lower left corner of gauge.



(SIDE VIEW)



(REAR VIEW)

Fig. 2 — 146B Bias Margin Gauge in Position for Collect Test

(4) After checking for the correct relay operation, reverse the gauge by turning it around *on the same pole piece extension arm* and request operation appearing in the lower left corner of gauge.

(5) Check for the correct relay operation. Replace relay if either test fails.

Note: Make certain coin relay cover is in place before replacing upper housing. If cover is missing, replace it before closing out the report.

Note: On 235- and 1235-type coin telephones make certain P-208E453 clip is properly positioned to avoid damaging clip when door is closed.

7. Tests to be Performed With Testdesk

Note: The following tests should be performed on initial installations, and on maintenance visits when repeated coin-handling trouble reports are evidenced, or the line card record in test center is not posted.

(a) Request deskman to test for foreign potential.

(b) Loop and ground resistance measurements

- Connections for loop and ground resistance measurements for a typical coin station are shown in Fig. 3 and 4, respectively. See Table B for use of dial long line equipment.

Note: The difference between the ground measurement and ½ the loop measurement is considered to be the ground resistance. This difference should be less than 50 ohms.

- Test measurements should be recorded on the line card in the test center.

- Installations with excessive loop resistance may require the use of a 685B subscriber set (S-36 relay). When required a 233- or 234-type coin collector must be used. Refer to Table C for use of 685B subscriber set and Fig. 5 for connections and operate path of the S-36 relay. For complete connection information see Section 506-215-404.

(c) Coin relay current flow test

(1) Preparation by type of station:

a. 233- and 234-type coin collectors:

- Remove upper housing and connect 1011B test set to (Y) and (L) terminals as shown in Fig. 6.

b. 235- and 1235-type coin telephones:

- Open and connect door to housing assembly with P11C cord.

c. 236- and 1234-type coin telephones:

- Remove and connect upper housing to lower housing with P10B cord.

(2) With the handset off-hook operate the hopper trigger.

(3) Call testdesk and request a current flow test of the coin relay.

- Observe relay operation.

- If either operate (48ma) or nonoperate (40ma) tests fail, replace coin relay.

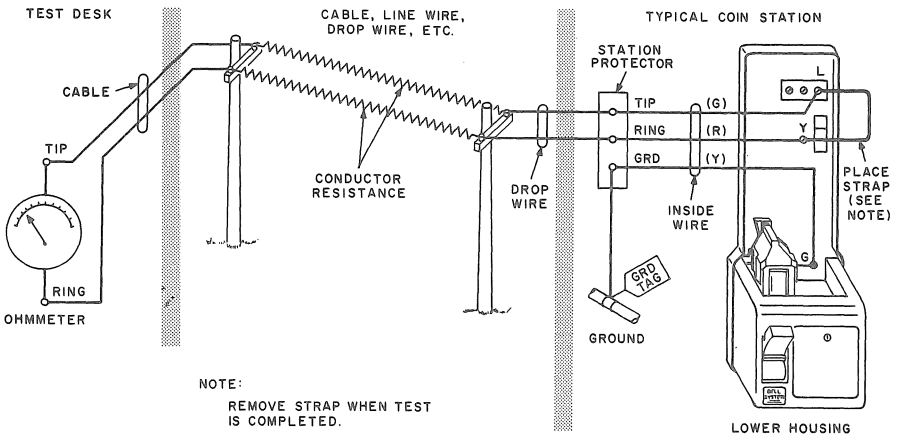


Fig. 3 — Loop Resistance Measurement

Note: The operate and release time for the single coil relay is 625 milliseconds with a minimum of 550 msec and a maximum of 700 msec. If any appreciable delay can be detected by eye, this requirement has not been met and the relay should be replaced. The timing interval may be compared with the time it takes for a rotary dial to return to normal after dialing digit 6.

Note: Circuits equipped with long line relays may appear to work satisfactorily even though the tip and ring are reversed. Check for 48V on ring and ground on tip.

(4) Coin relay current flow test date should be posted on line card in test center.

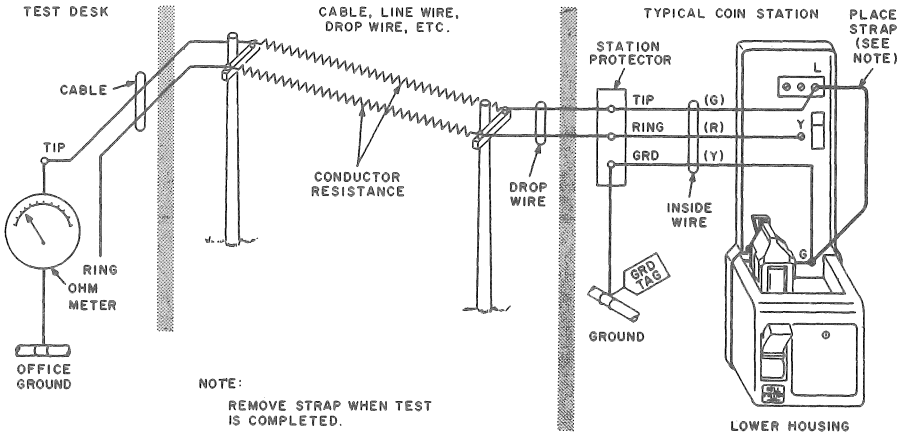


Fig. 4 — Ground Resistance Measurement

TABLE B

REQUIREMENTS FOR DIAL LONG LINE CIRCUITS ON COIN LINES

Type of Office	Requirements
Step-by-Step Panel	DLL CKT required on loops over 885 ohms
No. 1 Crossbar No. 5 Crossbar	DLL CKT required on loops over 1200 ohms

TABLE C

MAXIMUM ALLOWABLE LOOP RANGES FOR CENTRAL OFFICE COIN SUPPLY VOLTAGES

(Maximum Ground Resistance — 50 Ohms)

Type of Central Office	Minimum Coin Voltage	Loop Range Without S-36 Relay	Loop Range With S-36 Relay
Step-By-Step	100 volts (100-120V)	1100 ohms	1400 ohms
Panel and No. 1 Crossbar	115 volts (115-120V)	1600 ohms	1960 ohms
No. 5 Crossbar	125 volts (125-135V)	2000 ohms	2460 ohms

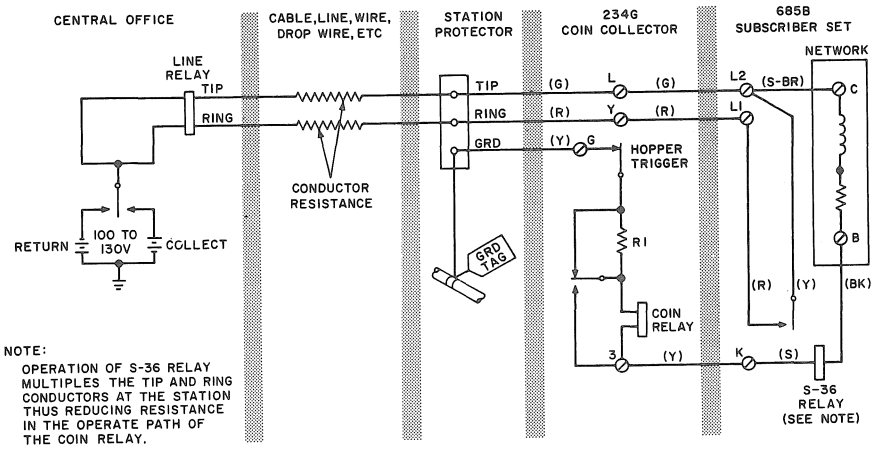


Fig. 5 — Connections and Operate Path of S-36 Relay (685B Subscriber Set)

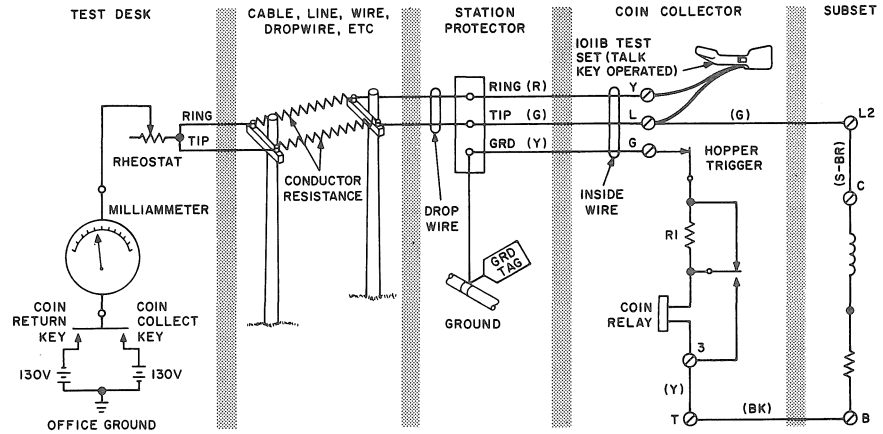


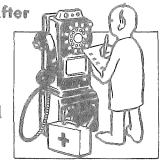
Fig. 6 — Coin Relay Current Flow Test

8. **Inspection of Wiring**

Inspect:	*BSP Reference*
(a) Inside and ground wire for:	
• Continuity and tight connections at ground clamp and terminal.	
• Proper selection of route and support	461-200-200
• Proper gauge (ground wire)	638-210-100
(b) Station protector for:	
• Proper type	638-215-200
• Operated blocks and units	638-215-100
• Ground wire caution tag (E-3013B)	638-210-100

Note: Post location of coin station signaling ground inside set according to local regulations.

9. **Final Tests and Inspection After Replacing Upper Housing or Closing Door**

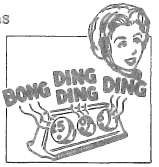


Note: Perform uncompleted operation tests shown in Step 2. Refer to Trouble Analysis (Table A) when tests fail.

- Coins required: 1 nickel, 1 dime, 1 quarter
- BSP reference: Sections 506-110-100 and 506-110-301

	Table A Trouble Nos.
(a) Call operator using two nickels:	

(1) Request that coins be identified as nickel, dime and quarter as they are deposited.	12
(2) Request coins be refunded	
(3) Verify returned coins	10
(4) Request ring-back	13
• Observe ringer volume	



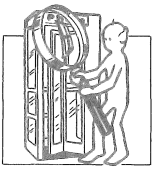
(b) Inspect for noise or cutout caused by upper housing vertical play (P-12A745 spacers).

(c) Inspect for noisy or cutout handset cord.

10. **Visual Inspection of Associated Items**

Inspect Condition of:

- Booth, shelf, or mounting (properly anchored and grounded)
- Glass
- Door operation
- Light fixtures
- Blower
- Directories
- Signs
- General area for public safety and appearance



4. COIN COLLECTOR/TELEPHONE FUNCTIONAL SCHEMATICS

4.01 As an aid in clearing electrical troubles, Fig. 7 through 11 provide functional schematics for coin collectors/telephones as follows:

- Fig. 7 — 234G Coin Collector With 685A Subscriber Set
- Fig. 8 — 235G Coin Telephone
- Fig. 9 — 236G Coin Telephone
- Fig. 10 — 1234G Coin Collector With 685A Subscriber Set
- Fig. 11 — 1235G Coin Telephone

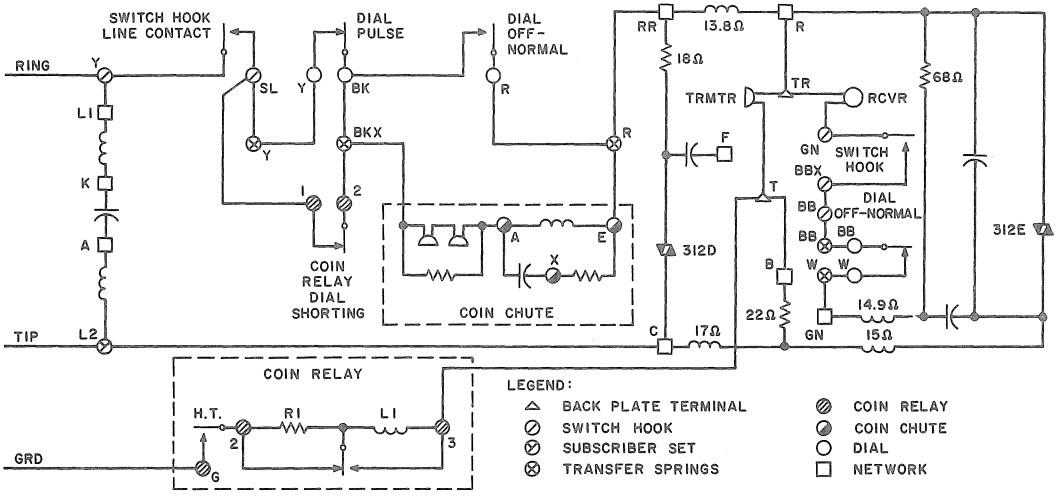


Fig. 7 — 234G Coin Collector With 685A Subscriber Set

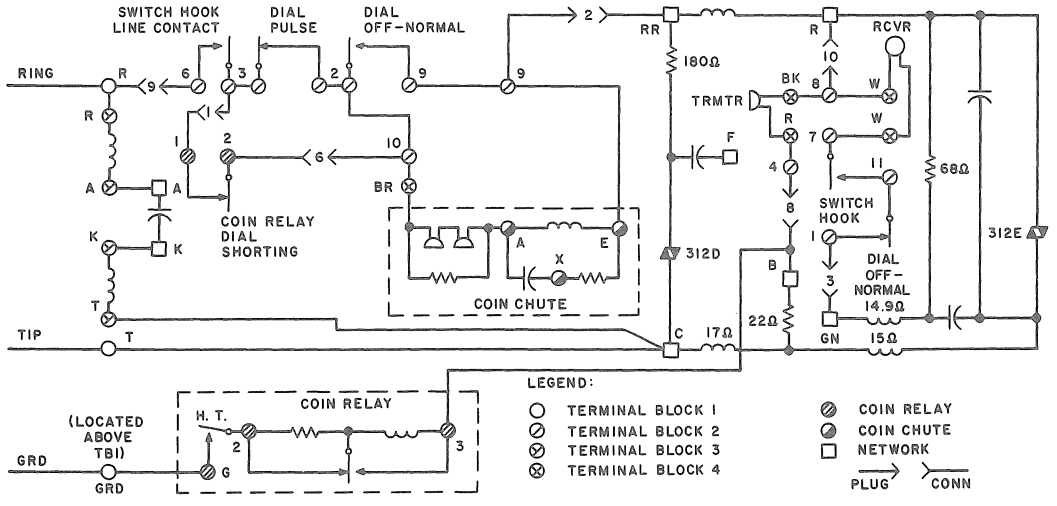


Fig. 8 — 235G Coin Telephone

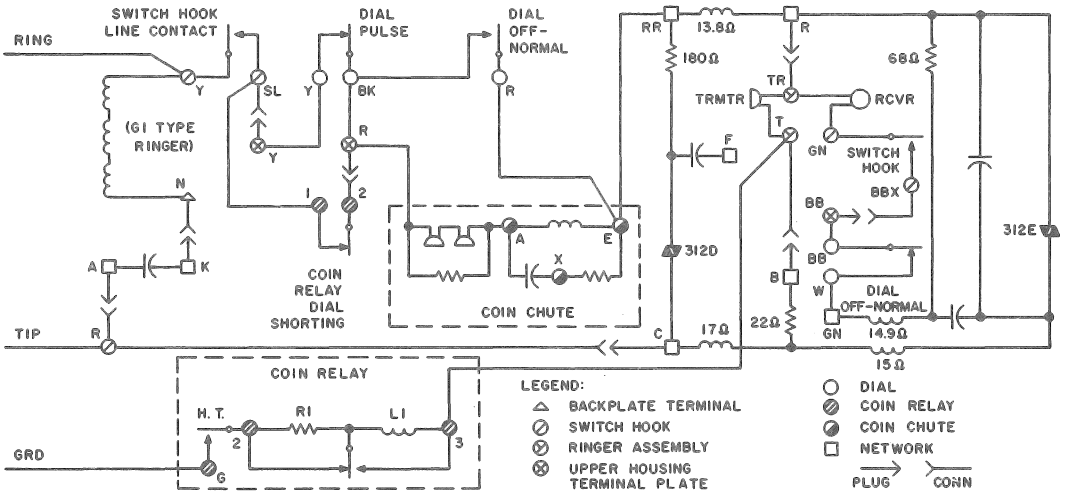


Fig. 9 — 236G Coin Telephone

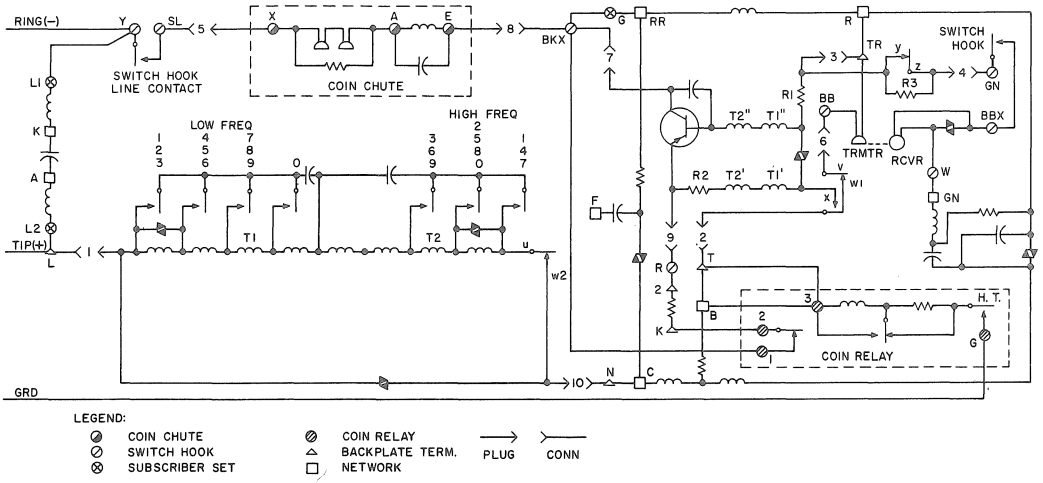


Fig. 10 — 1234G Coin Collector With 685A Subscriber Set

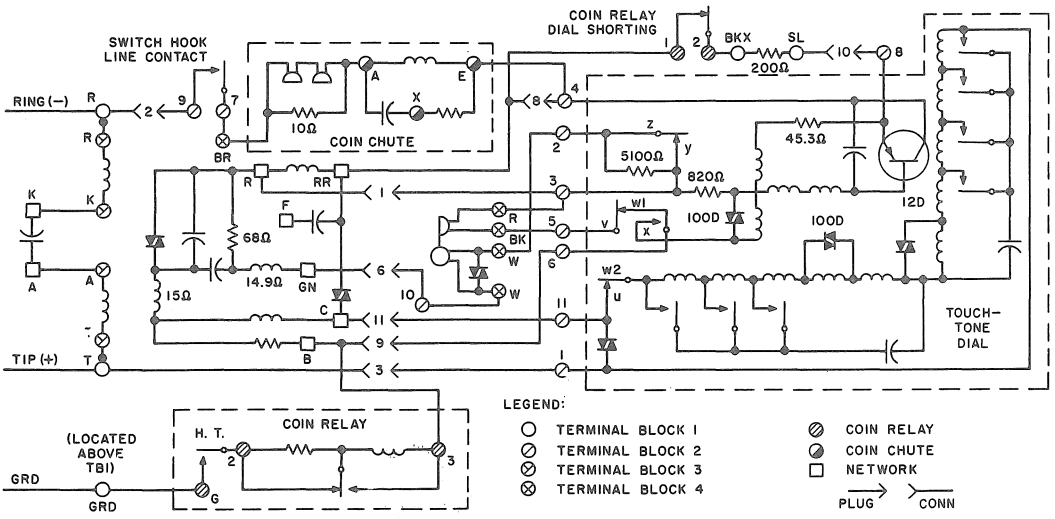


Fig. 11 — 1235G Coin Telephone

COIN TELEPHONE MAINTENANCE CHECK

SINGLE SLOT

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1. GENERAL

1.01 This booklet supplements Section 506-326-200 entitled Coin Telephones — 1A-Type — Installation and Maintenance, and Section 506-328-200 entitled Coin Telephones — 2A-Type — Installation and Maintenance. The latter section will be available during the third quarter of 1968.

1.02 It is intended that this booklet be used as an on-the-job reference for performing routines and clearing trouble in dial, prepay, single slot coin telephones. For detailed maintenance procedures see section referenced for the particular work operation.

1.03 *Dial Prepay Service:* When a coin telephone is in an idle state, the central office line circuit furnishes battery on the ring side of the line with the tip side open. When a coin or coins amounting to the initial rate are deposited, and the handset is off-hook, a coin ground causes the central office line circuit to operate over the ring side of the line (ground start). Operation of the line circuit connects ground to the tip and prepares the line for dialing over tip and ring. When the call is completed and handset is on-hook, collect (+) or return (—) current is applied to both sides of the line at the central office. The primary circuit in the coin telephone being open, causes the current to flow over the tip side of the line, through the coin relay to ground. The coin relay operates to refund or collect the deposit.

1.04 *Telephone Circuit:* The talking circuit in a single slot coin telephone is generally the same as used in conventional telephone sets, except for the addition of a chute noise transmitter in the primary circuit.

1.05 When trouble cannot be cleared, report it to to the test desk and place an E-4914 sticker over coin slot. Sticker shall be removed when service is restored.

2. TOOLS, GAUGES, CORDS, AND MATERIAL

2.01 The following tools, gauges, cords, and material may be required, in addition to those normally carried, to perform work operations outlined in this booklet:

Item	Use
139B Tool	Leveling coins
265C Tool	Burnishing contacts
376A Tool	Dental mirror for viewing contacts
528A Tool	Removing foreign material from locks

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Item	Use
719A Tool	Removing cover unit assembly (1A1, 1A2), opening door (2A1, 2A2)
Level, Spirit	Vertical alignment of coin telephone
KS-14995 Tool	Trap and vane release test
KS-6320 (orange stick)	Removing objects from chute
No. 6 Sash brush	General cleaning
146B Gauge	Coin relay bias margin test
P11C Cord	Connecting cover to housing (1A1, 1A2), connecting door to housing (2A1, 2A2)
Form E-4914	Out-of-service sticker
KS-2423 Cotton twill cloth	Cleaning
KS-6824 Sealing compound	Sealing bias adjustment screw on coin relay
KS-7860, petroleum spirits	Cleaning
KS-16601, L1 paper	Cleaning
KS-16750, L2 releaser	Removing dial fingerwheels, setting totalizer (2 req'd)
Lead pencil (2B or softer)	Lubricating coin release mechanism
Paper clip	Dial shorting test

3. EIGHT-STEP COIN STATION ROUTINE

3.01 The eight-step routine outlined in the following pages is provided as a reference check list for the inspection of single slot coin telephones during installation and repair visits.

3.02 The question of when to perform the routine is of concern to those whose efforts are directed to improving coin service by reducing repeated reports. The following guidelines are in keeping with this objective.

When to Perform the Complete Eight-Step Routine

(a) Upon installation of a coin telephone

(b) On repeated reports for which trouble cannot be found by the usual maintenance procedures.

(c) Before closing out the following type reports as "FOUND OK OUT":

"COINS DON'T RETURN"

"NO DIAL TONE—COINS DON'T RETURN"

When to Perform Specific Steps of the Routine

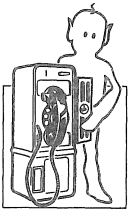
(a) Steps 1, 2, 3, 7, and 8 are required as part of each repair visit for all trouble reports.

(b) Steps 4 and 6 are required, in addition to (a) as part of the investigation of "Coins Don't Return" and "No Dial Tone" reports.

(c) Step 5 is required to update the measurement records on the test center line card and on repeated "Coins Don't Return" reports.

3.03 When trouble reports continue after repeated routine visits have been made, additional assistance and/or central office investigation may be in order rather than continued routines of the station.

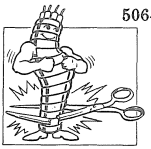
3.04 Single-slot coin telephones must be mounted on a vertical surface. A tilt greater than 1-1/2 degrees in any direction will cause a malfunction of the telephone. (See 506-326-200.)



3.05 The eight-step coin station routine is as follows:

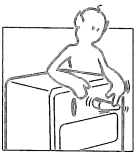
Step 1. Inspection Before Removing Cover Assembly or Opening Door.

Inspect:	*BSP Reference*
(a) Dial Operation	
• Operates smoothly without slipping or skipping	
• Does not bind on return to normal	
• Finger wheel not cracked	
• 8-type dials (rotary)	501-162-100
• 35-type dials (TOUCH-TONE®)	501-164-115
(b) Handset	
• Locked caps	501-210-101
• Cracked caps or handle	
• Antifraud transmitter unit	501-230-100
• Antifrost transmitter cover	506-110-200
• G-type handsets	501-210-102
(c) Armored Cord	506-110-103
• Secure at handset and instrument	
• Armor intact	
(d) Housing, Cover, or Door	
• Appearance	506-326-200 506-328-200
• 1A1 or 1A2 tilted vertically	506-326-200
(e) Number Cards	501-150-100
• Correct telephone number	
(f) Instruction Cards	506-326-200 506-328-200
• Correct information	
• Securely in place	
(g) Coin Return Chute	506-326-200 506-328-200
• Door swings freely	
• Not blocked	



Inspect: | *BSP Reference*

(h) Coin Release Lever



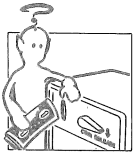
506-326-200
506-328-200

- Not broken
- Operates freely

Step 2. Operation Tests Before Removing Cover or Opening Door

Note: Refer to Trouble Analysis (Table A) when operation tests fail. Normally, when using Table A, it will be necessary to remove cover or open door and connect to housing with P11C cord to evaluate trouble.

- Coins required: 1 quarter, 1 dime, 2 nickels, 1 penny
- BSP reference: Sections: 506-326-200, 506-326-500, and 506-328-200



(a) With handset on-hook:
  (1) Deposit quarter
    - Quarter should be refunded
  (2) Repeat, using a dime and than a nickel
    - Each coin should be refunded

Note: If coin is not refunded after installing a new totalizer, repeat test with second coin before assuming failure. Cam shaft could be in such position initially that no response would be obtained from Cenral Office.

(b) With handset on-hook:
  (1) Deposit penny
  (2) Depress coin release lever
    - Penny should be returned

(c) With handset off-hook:
  (1) Deposit nickel
    - Check for no dial tone
  (2) Deposit second nickel
    - Check for dial tone
  (3) Dial any digit but "0" or "1"
    - Dial tone breaks
  (4) Hang up handset
    - Nickels should be returned

(d) Check for receiving and breaking dial tone with each of the following:

- 1 quarter, 1 dime

TABLE A

TROUBLE ANALYSIS

(INITIAL RATE SET FOR 10 CENTS)

TELEPHONE SET CONDITION	FAILURE	STEP NO.*	COIN TELEPHONE 1A1, 2A1	COIN TELEPHONE 1A2, 2A2	POSSIBLE CAUSE	REMEDIAL ACTION
Handset On-Hook (Inverted) Deposit Quarter	No Readout †	1	•	•	Tip and ring reversed	Reconnect as required
		2	•	•	Plugs P1 & P2 reversed	
		3	•	•	Central office overload	Wait, then repeat test
		4	•	•	Switch hook transfer contacts SH1(NC) and SH3(NC) not making	Clean contacts Replace dial and housing assembly
		5	•	•	Coin relay contact HT1 not making	Clean contacts Replace coin relay

TABLE A (Cont)

TELEPHONE SET CONDITION	FAILURE	STEP NO.*	COIN TELEPHONE 1A1, 2A1	COIN TELEPHONE 1A2, 2A2	POSSIBLE CAUSE	REMEDIAL ACTION
Handset On-Hook (Inverted) Deposit Quarter (Cont)	No Readout † (Cont)	6	●	●	Defective totalizer	Replace defective apparatus
		7	●	●	Defective coin relay	
		8	●	●	Defective chassis wiring	
		9	●	●	Defective wiring in dial and housing assembly	
		10	●	●	Defective A relay	
		11	●	●	Defective handset	
		12		●	Defective dial	
Handset On-Hook (Inverted), Deposit Nickel	No Readout †	13	●	●	Switch hook transfer contacts SH3(NC) not making	Clean contacts Replace dial and housing assembly
		14	●	●	Defective wiring in dial and housing assembly	Replace dial and housing assembly
		15	●	●	Central Office overload	Wait, then repeat test
Handset On-Hook (Inverted) Nickel Deposited Readout OK	No Refund	16	●	●	Switch hook contacts SH2 or SH4 not breaking	Replace dial and housing assembly
		17	●	●	Defective totalizer	Replace totalizer
		18	●	●	Central Office overload	Wait, then repeat test
		19	●	●	Defective CO coin trunk	Refer to Test Center
Handset Off-Hook Deposit Nickel	Readout Obtained, Dial Tone is Heard	20	●	●	T1 contacts remain latched after refund	Replace totalizer
		21	●	●	Initial rate set for 5 cents	Reset totalizer rate
Handset Off-Hook Deposit Nickel (Cont)	Readout Obtained Dial Tone is Heard (Cont)	22	●	●	Switch hook transfer contacts SH3(NC) not breaking	Replace dial and housing assembly
		23	●	●	Defective chassis wiring	Replace chassis assembly
		24	●	●	Defective wiring in dial and housing assembly	Replace dial and housing assembly
Handset Off-Hook Initial Rate (10 Cents) Deposited	No Readout †	25	●	●	Switch hook transfer contacts SH3(NO) or SH2(NO) not making	Clean contacts Replace dial and housing assembly
		26	●	●	Totalizer set for more than initial rate	Reset totalizer rate
		27	●	●	Defective wiring in dial and housing assembly	Replace dial and housing assembly

TABLE A (Cont)

TELEPHONE SET CONDITION	FAILURE	STEP NO.*	COIN TELEPHONE 1A1, 2A1	COIN TELEPHONE 1A2, 2A2	POSSIBLE CAUSE	REMEDIAL ACTION
Handset Off Hook, Initial Rate Deposited, Readout OK	No Dial Tone (or Reduced Dial Tone Level in 1A2 or 2A2)	28	•	•	Switch hook transfer contacts SH1(NO) not making	Clean contacts Replace dial and housing assembly
		29	•		Rotary dial off — normal contacts not breaking	
		30	•	•	Defective totalizer	Replace defective apparatus
		31	•	•	Defective chassis wiring	
		32	•	•	Defective wiring in dial and housing assembly	
		33	•	•	Defective handset	
		34		•	Defective dial	
Handset Off-Hook, Initial Rate Deposited, Readout OK (Cont)	Coins Return After Readout With No Dial Tone	35	•	•	Switch hook contacts SH2 and SH4 not making	Clean contacts Replace dial and housing assembly
		36	•		Open dial	
		37	•	•	Defective chassis wiring	Replace defective apparatus
		38	•	•	Defective wiring in dial and housing assembly	
	Totalizer Steps Continuously (May Give Short Bursts of Dial Tone)	39	•	•	Totalizer transfer contacts T2(NC) not making	
		40	•	•	Defective chassis wiring	
		41	•	•	Defective wiring in dial and housing assembly	
Handset Off Hook Dial Tone OK	Cannot Break Dial Tone	42	•	•	Totalizer contacts T1 not latching	Replace totalizer
		43	•	•	Defective dial	Replace defective apparatus
		44	•	•	Defective chassis wiring	
		45	•	•	Defective wiring in dial and housing assembly	
		46		•	Defective handset	
	Coins Return When Dial is Operated	47	•	•	Defective dial	

TABLE A (Cont)

TELEPHONE SET CONDITION	FAILURE	STEP NO.*	COIN TELEPHONE 1A1, 2A1	COIN TELEPHONE 1A2, 2A2	POSSIBLE CAUSE	REMEDIAL ACTION
Handset Off-Hook, Hopper Trigger tripped by hand, Dial Tone OK, Dial One Digit Other Than "0" or "1"	Dial Tone is Broken	48	•	•	Totalizer transfer contacts T1(NO) not making	Replace totalizer
Handset Off-Hook, Initial Rate Deposited Readout OK	No Dial Tone and No Refund	49	•	•	Totalizer transfer contacts T2(NC) not making	Replace totalizer
		50	•	•	Totalizer steps through zero rate position	
Handset Off-Hook, Readout OK, Dial Tone OK, Refund OK	No Sidetone	51	•	•	Open transmitter	Replace handset
Operator on Line, Deposit Nickel	No Readout, Operator Cannot Hear Coin Tones	52	•	•	Defective A relay	Replace A relay
		53	•	•	Defective chassis wiring	Replace chassis assembly
Operator On Line, Deposit Additional Coins	Hear Coin Tones in Handset ‡	54	•	•	Defective chassis wiring	Replace chassis assembly
	No Coin Tones Heard by Operator	55	•	•	Totalizer transfer contacts S1(NC) not making	Replace totalizer
		56	•	•	Defective oscillator	Replace chassis
Operator on Line, Deposit Additional Coins (Cont)	Dime Tones Too Fast	57	•	•	Totalizer contacts CS(NC) not making	Replace totalizer
		58	•	•	CS cam not resetting	
	Too Many Coin Tones	59	•	•	Totalizer not stepping properly — T2(NC) not making	
	Quarter Tones Too Slow	60	•	•	Totalizer contacts CS(NC) not breaking	

* Steps should be taken in sequence. Possible cause assumes that preceding tests have been met.
† Readout refers to operation of totalizer and generation of beeps by coin signal oscillator.
‡ A slight tone may be heard on long loops but may not necessarily be a failure.

Step 3. Inspection After Removing Cover or Opening Door

Note: Before removing cover on 1A1 and 1A2 coin telephones, invert handset on switch hook to prevent armored cord from pushing handset off switch hook when cover is set down.

Inspect:	*BSP Reference*
(a) Station and coin relay wiring for tight connections.	
(b) Coin chute assembly for foreign matter and dirt.	

- Make certain chute locking lever and spring are properly engaged. — 560-326-200, 506-328-200
- Make certain station wiring is properly dressed and not binding against totalizer cover causing coin chute to be out of alignment.

(c) Level of coins using 139B Tool.

(d) For evidence of station tampering indicating fraudulent use.

Step 4. Coin Relay and Hopper Operation

Inspect:	*BSP Reference*
(a) Ground contact and dial shorting contact spring	506-110-301, 506-326-200, 506-328-200

- Clean
- Proper operation

Inspect:	*BSP Reference*

- Lubricate surface between trigger and contact spring with 2B, or softer, lead pencil

(b) Selector card magnets and pole piece extensions — 506-110-301, 506-326-200, 506-328-200

- Remove foreign magnetic particles and dirt.

(c) Operation of trigger, trap, and vane — 506-110-301, 506-326-200, 506-328-200

- Perform trap and vane release test with KS-14995 tool.

(d) Coin relay bias margin test:

(1) Call testdesk and request a bias margin test of the coin relay (use Central Office test circuit where available).

Note: Do not operate coin relay armature without first depressing selector card.

(2) Slip 146B bias margin gauge (Fig. 1) over left pole piece extension arm from left side of coin relay (Fig. 2).

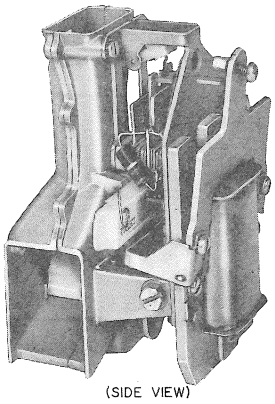
Fig. 1 — 146B Bias Margin Gauge

(3) Request deskman to perform operation (collect or return) appearing in lower left corner of gauge.

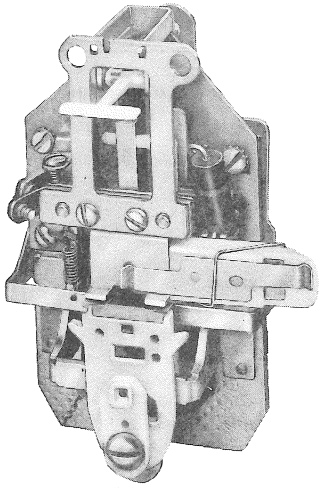
(4) After checking for the correct relay operation, reverse the gauge by turning it around *on the same pole piece extension arm* and request operation appearing in the lower left corner of gauge.

(5) Check for the correct relay operation. Replace relay if either test fails.

Note: Make certain coin relay cover is in place before replacing cover assembly or closing door. If cover is missing, replace it before closing out the report.



(SIDE VIEW)



(REAR VIEW)

Fig. 2. — 146B Bias Margin Gauge in Position for Collect Test

Step 5. Tests to be Performed With Testdesk

Note: The following tests should be performed on initial installations, and on maintenance visits when repeated coin-handling trouble reports are evidenced, or the line card record in test center is not posted.

(a) Request deskman to test for foreign potential.

(b) Loop and ground resistance measurements.

- Connection for loop and ground resistance measurements for a typical single slot coin station are shown in Fig. 3 and 4, respectively. See Table B for use of Dial Long Line equipment, and Table C for maximum allowable loop ranges.

  Note: The difference between the ground measurement and 1/2 the loop measurement is considered to be the ground resistance. This difference should be less than 50 ohms.

- Test measurements should be recorded on the line card in the test center.

(c) Coin relay current flow test (Fig. 5).

(1) Preparation by type of station:

a. 1A1 and 1A2 coin telephones:

- Remove cover assembly and connect it to housing with P11C cord.

b. 2A1 and 2A2 coin telephones:

- Open and connect door to housing assembly with P11C cord.

(2) With handset off-hook deposit initial rate.

(3) Call testdesk and request a current flow test of the coin relay.

- Observe relay operation.

- If either operate (48 ma) or nonoperate (40 ma) tests fail, replace coin relay.

Note: The operate and release time for the single coin relay is 625 milliseconds with a minimum of 550 msec and a maximum of 700 msec. If any appreciable delay can be detected by eye, this requirement has not been met and the relay should be replaced. The timing interval may be compared with the time it takes for a rotary dial to return to normal after dialing digit 6.

Note: Coin lines equipped with long line circuits may appear to work satisfactorily even though the tip and ring are reversed. Check for 48 volts on ring and ground on tip.

(4) Coin relay current flow test date should be posted on line card in test center.

Step 6. Inspection of Wiring

Inspect:	*BSP Reference*
(a) Inside and ground wire for:	
• Continuity and tight connections at ground clamp and terminal.	
• Proper selection of route and support	461-200-200
• Proper gauge (ground wire)	638-210-100

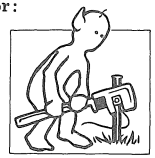


TABLE B
REQUIREMENTS FOR DIAL LONG LINE CIRCUITS ON COIN LINES

Type of Office	Requirements
Step-by-Step Panel	DLL CKT required on loops over 885 ohms
No. 1 Crossbar No. 5 Crossbar	DLL CKT required on loops over 1200 ohms

TABLE C
MAXIMUM ALLOWABLE LOOP RANGES FOR CENTRAL OFFICE COIN SUPPLY VOLTAGES
(Maximum Ground Resistance — 50 Ohms)

Type of Central Office	Minimum Coin Voltage	Loop Range
Step-By-Step	100 volts (100-120V)	1100 ohms
Panel and No. 1 Crossbar	115 volts (115-120V)	1600 ohms
No. 5 Crossbar	125 volts (125-135V)	2000 ohms

Inspect:	*BSP Reference*
(b) Station protector for:	
• Proper type	638-215-200
• Operated blocks and units	638-215-100
• Ground wire caution tag (E-3013B)	638-210-100

Note: Post location of coin station signaling ground inside set according to local regulations.

Step 7. Final Tests and Inspection After Replacing Cover Assembly or Closing Door

Note: Perform uncompleted operation tests shown in Step 2. Refer to Trouble Analysis (Table A) when tests fail.

- Coins required: 1 nickel, 1 dime, 1 quarter.
- BSP reference: 506-326-200, 506-326-500, and 506-328-200

(a) Call operator:

(1) Request that coins be identified as nickel, dime, and quarter as they are deposited.

(2) Request coins be refunded.

(3) Verify returned coins.

(4) Request ring-back.

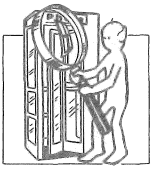
- Observe ringer volume

(b) Inspect for noisy or cutout handset cord.

Step 8. Visual Inspection of Associated Items

Inspect condition of:

- Booth, shelf, or mounting (properly anchored and grounded)
- Glass
- Door operation
- Light fixtures
- Blower
- Directories
- Signs
- General area for public safety and appearance



4. COIN TELEPHONE FUNCTIONAL SCHEMATICS

4.01 As an aid in understanding the various circuit operations of single slot coin telephones, the following functional schematics are provided:

- Fig. 6 — Call Abandoned With Less Than Initial Rate Deposited (Deposit Refunded)
- Fig. 7 — Initial Rate Deposited — Origination State
- Fig. 8 — Dialing, Talking, and Listening Circuits
- Fig. 9 — Coin Signal Tone Circuit

4.02 The following figures are provided as an aid in clearing electrical troubles:

- Fig. 10 — 1A1 and 2A1 Coin Telephone Schematic
- Fig. 11 — 1A2 and 2A2 Coin Telephone Schematic

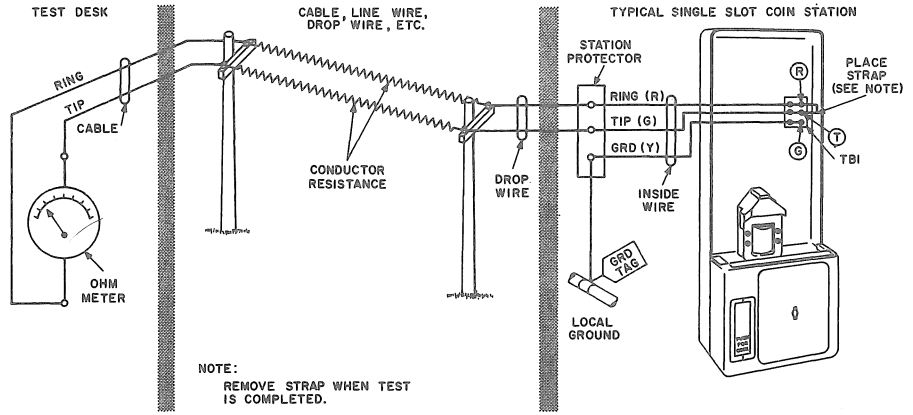


Fig.3 — Loop Resistance Measurement

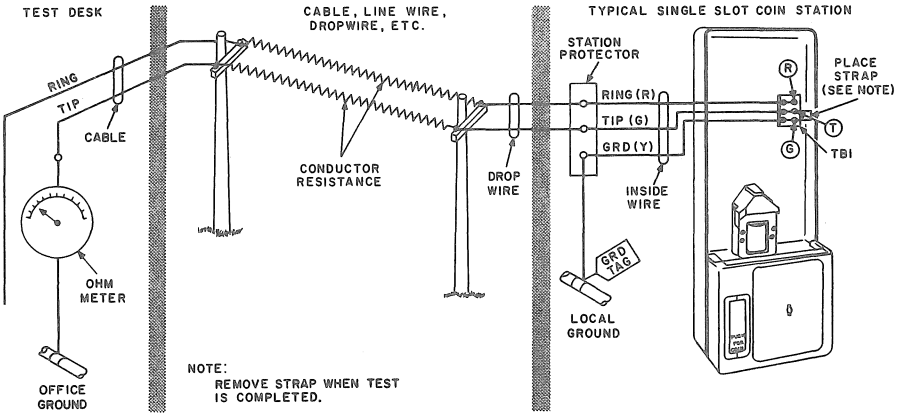


Fig. 4 — Ground Resistance Measurement

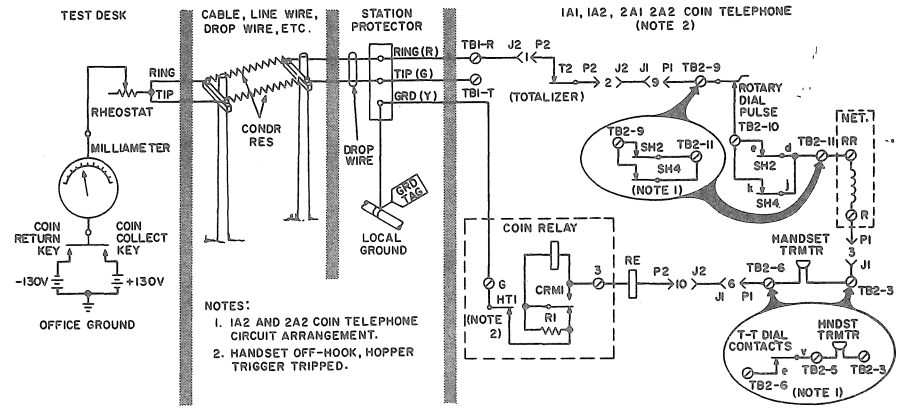
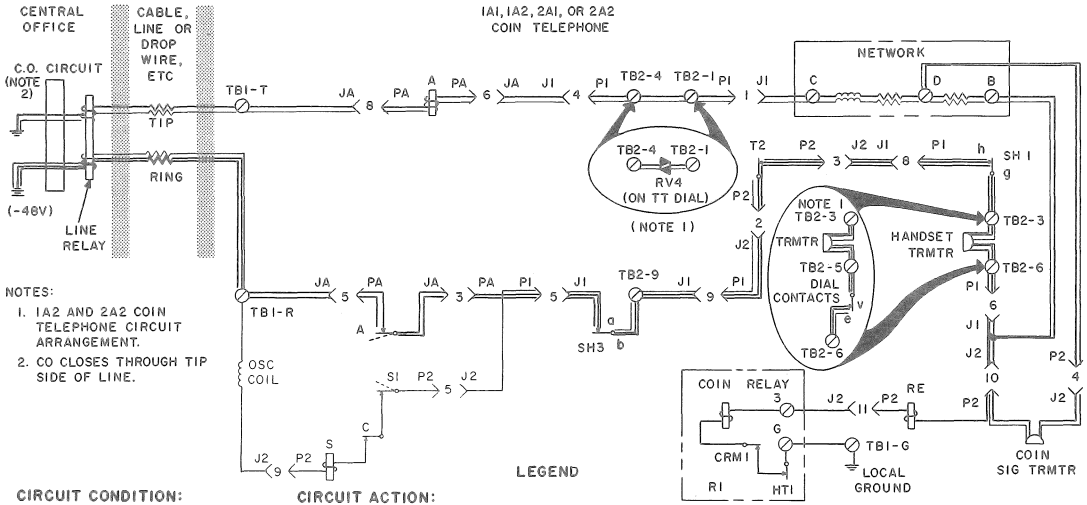


Fig. 5 — Coin Relay Current Flow Test



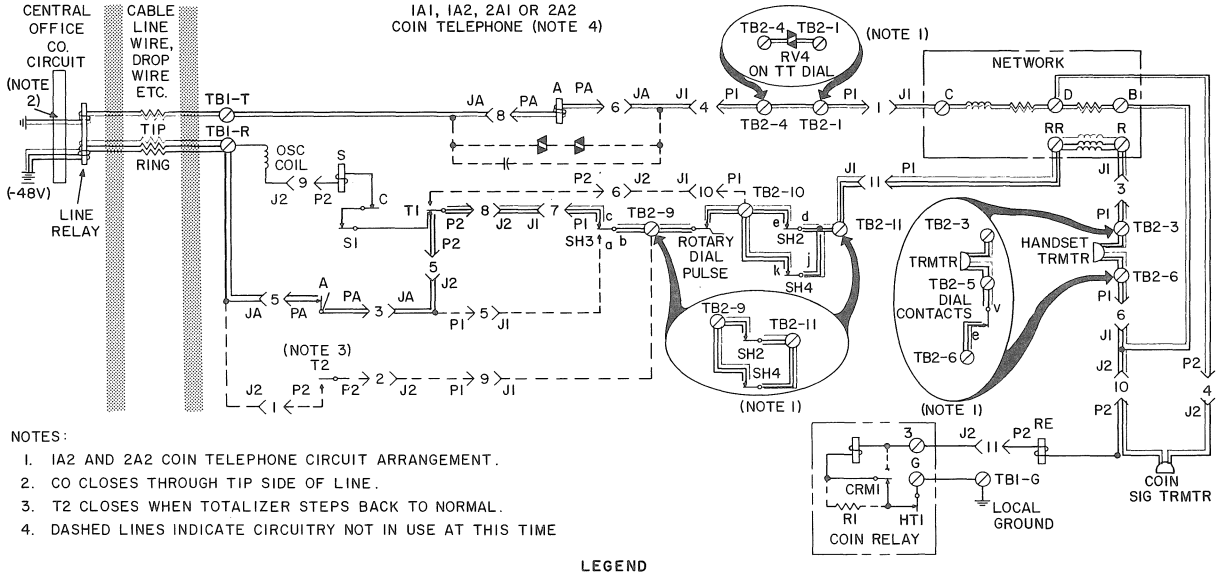
CIRCUIT CONDITION:

- HANDSET ON SWITCH HOOK
- T2 OPERATED (COIN DEPOSITED)
- HT1 (HOPPER TRIGGER) OPERATED

CIRCUIT ACTION:

1. **BLACK-** THIS CIRCUIT CAUSES THE TIP SIDE OF LINE TO BE CLOSED THROUGH TO GROUND IN THE CO. DIAL TONE IS PLACED ON LINE BUT IS INEFFECTIVE. CURRENT IN THIS CIRCUIT (48V) IS NOT SUFFICIENT TO OPERATE RE OR COIN RELAY.
2. **RED—** A RELAY OPERATES, CAUSING ITS NORMAL CONTACT TO OPEN REMOVING THE SHORT ACROSS THE S (STEPPER) RELAY.
3. **GREEN-** (A) OPERATION OF S RELAY CAUSES ITS NORMALLY CLOSED S1 CONTACT TO OPEN. THE S1 CONTACT IN OPENING CAUSES THE S RELAY TO RELEASE, THUS CLOSING THE S1 CONTACT. THIS OPERATING AND RELEASING ACTION OF THE S RELAY STEPS THE TOTALIZER 10 DEGREES BACK TO NORMAL EACH TIME IT OPERATES. (EACH $.05 AMOUNT DEPOSITED CAUSES THE TOTALIZER TO ROTATE 10 DEGREES OFF NORMAL).
   (B) WHEN THE TOTALIZER HAS BEEN STEPPED BACK TO NORMAL, T2 CONTACT RESTORES, (OPENS ITS MAKE CONTACT) WHICH IN TURN, OPENS THE TELEPHONE CIRCUIT.
4. **BLUE—** (A) THE CO, DETECTING THE OPEN TELEPHONE CIRCUIT, SENDS OUT NEGATIVE 100 TO 130 VOLTS RETURN BATTERY TO RETURN THE DEPOSIT.
   (B) THE RE RELAY IN OPERATING WOULD NORMALLY RESTORE THE T1 CONTACT. SINCE THE INITIAL RATE WAS NOT DEPOSITED, THE T1 WAS NORMAL AND THE OPERATED RE RELAY HAS NO EFFECT.
   (C) THE OPERATED COIN RELAY, CLOSES ITS MAKE CONTACT CAUSING THE CURRENT TO BY-PASS THE RELAY AND FLOW THROUGH THE RESISTOR WHICH WAS PREVIOUSLY SHORTED. THE SHORT ACROSS THE RELAY WINDING CAUSES THE RELAY TO BE SLOW RELEASE. THE RESISTOR, HAVING APPROXIMATELY THE SAME RESISTANCE AS THE COIN RELAY WINDING, IS PLACED IN THE CIRCUIT TO PROTECT CONTACT HT1 WHEN IT RESTORES, AND TO PROTECT THE RESISTANCE LAMP IN THE CENTRAL OFFICE CIRCUIT.
   (D) AS THE COIN RELAY RELEASES, THE HT1 CONTACT OPENS, PLACING THE TELEPHONE IN ITS IDLE STATE.

Fig. 6 — Call Abandoned With Less Than Initial Rate Deposited (Deposit Refunded)



NOTES:

1. IA2 AND 2A2 COIN TELEPHONE CIRCUIT ARRANGEMENT.
2. CO CLOSES THROUGH TIP SIDE OF LINE.
3. T2 CLOSES WHEN TOTALIZER STEPS BACK TO NORMAL.
4. DASHED LINES INDICATE CIRCUITRY NOT IN USE AT THIS TIME

LEGEND

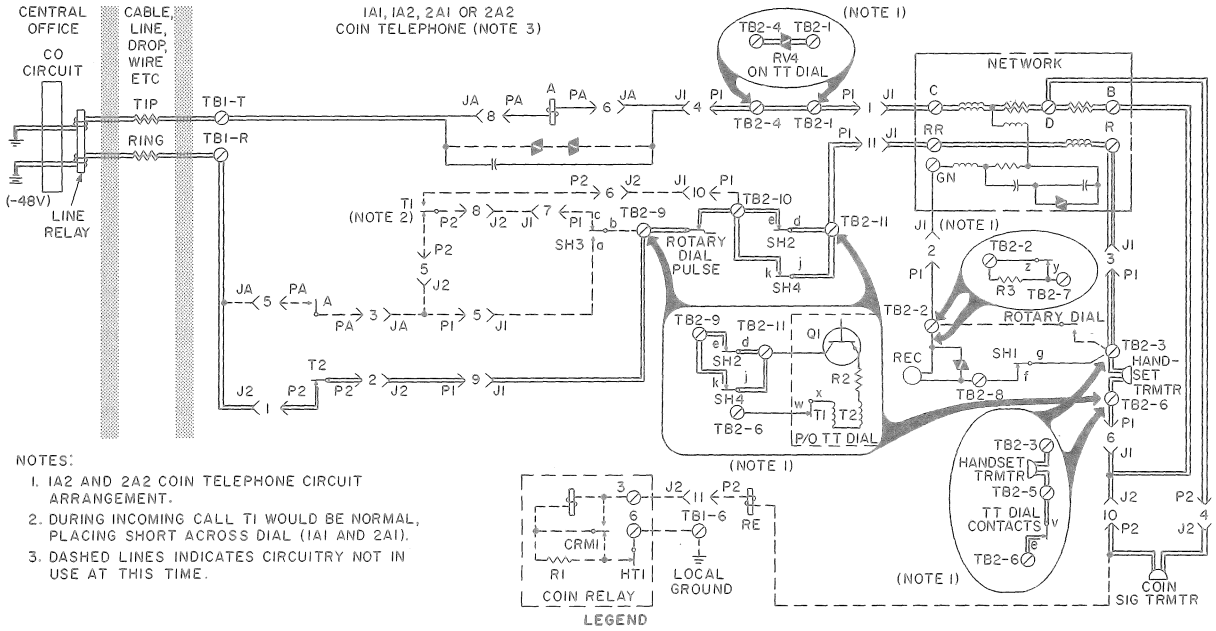
CIRCUIT CONDITION:

- OUTGOING CALL
- HANDSET OFF-HOOK (SH1,SH2,SH3,SH4 OPERATED)
- T2 OPERATED (COIN DEPOSITED)
- TI OPERATED (INITIAL RATE DEPOSITED)
- HTI (HOPPER TRIGGER) OPERATED

CIRCUIT ACTION:

1. **BLACK**—THIS CIRCUIT CAUSES THE TIP SIDE OF LINE TO BE CLOSED THROUGH TO GROUND IN THE **CO.** DIAL TONE IS PLACED ON LINE. CURRENT IN THIS CIRCUIT (48V) IS NOT SUFFICIENT TO OPERATE **RE** OR COIN RELAY.
2. **RED**——**A** RELAY OPERATES CAUSING ITS NORMAL CONTACT TO OPEN WHICH REMOVES THE SHORT ACROSS THE **S** (STEPPER) RELAY.
3. **GREEN**—(A) OPERATION OF **S** RELAY CAUSES ITS NORMALLY CLOSED **SI** CONTACT TO OPEN. THE **SI** CONTACT IN OPENING CAUSES THE **S** RELAY TO RELEASE THUS CLOSING THE **SI** CONTACT. THIS OPERATING AND RELEASING ACTION OF THE **S** RELAY STEPS THE TOTALIZER IO DEGREES BACK TO NORMAL EACH TIME IT OPERATES.
   (B) WHEN THE TOTALIZER HAS BEEN STEPPED BACK TO NORMAL THE **T2** CONTACT RESETS AND PLACES THE TELEPHONE CIRCUIT IN ITS DIALING AND TALKING STATE.

Fig. 7 — Initial Rate Deposited — Origination State



NOTES:

1. 1A2 AND 2A2 COIN TELEPHONE CIRCUIT ARRANGEMENT.
2. DURING INCOMING CALL TI WOULD BE NORMAL, PLACING SHORT ACROSS DIAL (1A1 AND 2A1).
3. DASHED LINES INDICATES CIRCUITRY NOT IN USE AT THIS TIME.

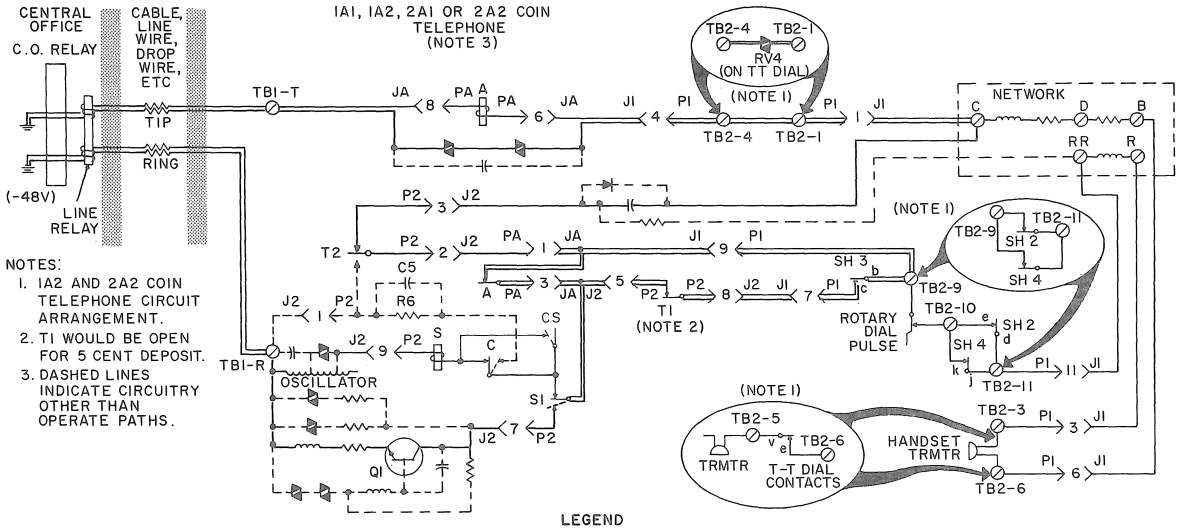
CIRCUIT CONDITION:

- OUTGOING CALL
- HANDSET OFF HOOK
- DIAL TONE PRESENT
- TI OPERATED
- T2 RETURNED TO NORMAL

CIRCUIT ACTION:

1. BLACK — DIALING —
   DIALING PATH OF ROTARY DIAL COIN TELEPHONE DIFFERS FROM TOUCH-TONE SET (SEE NOTE 1 AND INSETS). TOUCH-TONE DIAL CONTACTS V, E OPEN AND DISCONNECT TRANSMITTER FROM NETWORK DURING DIALING; CONTACTS W, X CLOSE AND CONNECT THE DIAL OSCILLATOR TO THE NETWORK IN PLACE OF THE TRANSMITTER.
2. RED — TALKING —
   TOUCH-TONE DIAL CONTACTS V, E CLOSE, AND W, X OPEN DURING THE TALKING STATE (SEE INSETS). THE COIN SIGNAL TRANSMITTER DETECTS THE SOUND OF COINS DROPPING THROUGH THE CHUTE.
3. GREEN — LISTENING —
   (A) THE LISTENING (SECONDARY) CIRCUIT RECEIVES ITS ENERGY THROUGH INDUCTIVE COUPLING FROM THE PRIMARY INDUCTION COIL WINDINGS.
   (B) ROTARY DIAL OFF-NORMAL CONTACTS SHORT OUT THE RECEIVER DURING DIALING.
   (C) TOUCH-TONE DIAL CONTACTS Y, Z REMOVE THE SHUNT ACROSS LEVEL LIMITING RESISTOR R3 TO REDUCE OSCILLATOR SIDETONE DURING DIALING.

Fig. 8 — Dialing, Talking, and Listening Circuits



LEGEND

CIRCUIT CONDITION:

- NICKEL, DIME, OR QUARTER DEPOSIT REQUESTED BY OPERATOR
- T2 OPERATED AS RESULT OF DEPOSITED COIN
- **C** AND **CS** CONTACTS NORMAL FOR NICKEL OR DIME DEPOSIT
- **C** AND **CS** CONTACTS OPERATED FOR QUARTER DEPOSIT

1. **BLACK**—OSCILLATOR CHARGING CIRCUIT AND **S** RELAY OPERATING PATH FOR NICKEL OR DIME DEPOSIT. THE CIRCUIT IS SHOWN FOR DIME DEPOSIT. NICKEL DEPOSIT CIRCUIT WOULD BE THE SAME, EXCEPT **T1** CONTACT WOULD BE NORMAL (OPEN) INSTEAD OF CLOSED AS SHOWN.
2. **BLACK AND GREEN**—OSCILLATOR CHARGING CIRCUIT AND **S** RELAY OPERATING PATH FOR QUARTER DEPOSIT. **CS** CONTACT OPERATES WHEN TOTALIZER ROTATES 45°, ENABLING CHARGING OF THE OSCILLATOR AND OPERATION OF **S** RELAY AFTER **C** CONTACT OPENS. THIS ENABLES A FASTER READOUT OF THE OSCILLATOR CIRCUIT.
3. **RED**—OSCILLATOR READOUT (TONE SIGNAL) PATH. CONTACT **SI** TRANSFERS THE CURRENT FLOW FROM THE TOTALIZER TO THE TRANSISTOR. CURRENT FLOW IS INCREASED AND DECREASED DUE TO THE CHANGING POLARITY ON THE EMITTER AND BASE OF THE TRANSISTOR CAUSED BY THE TRANSFORMER ACTION OF THE TANK CIRCUIT. THIS PRODUCES TONE SIGNAL HEARD BY OPERATOR.

Fig. 9 — Coin Signal Tone Circuit

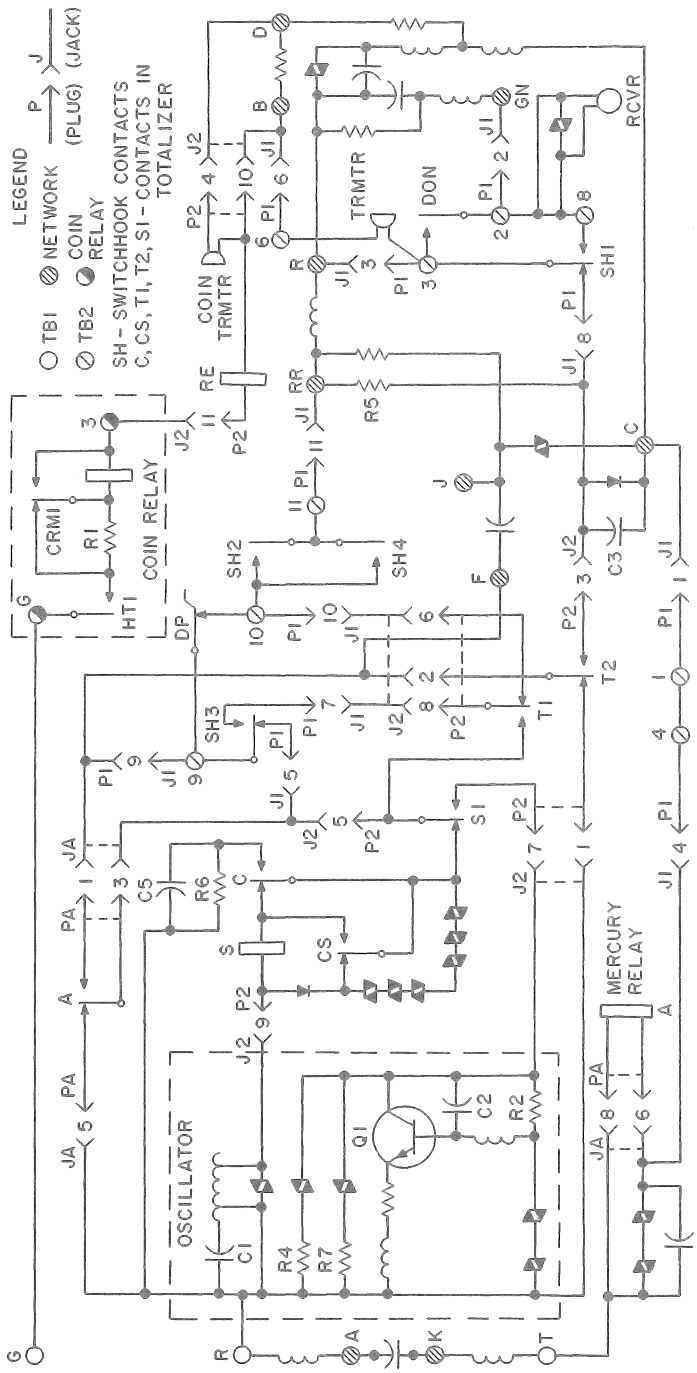


Fig. 10 – 1A1 and 2A1 Coin Telephone Schematic

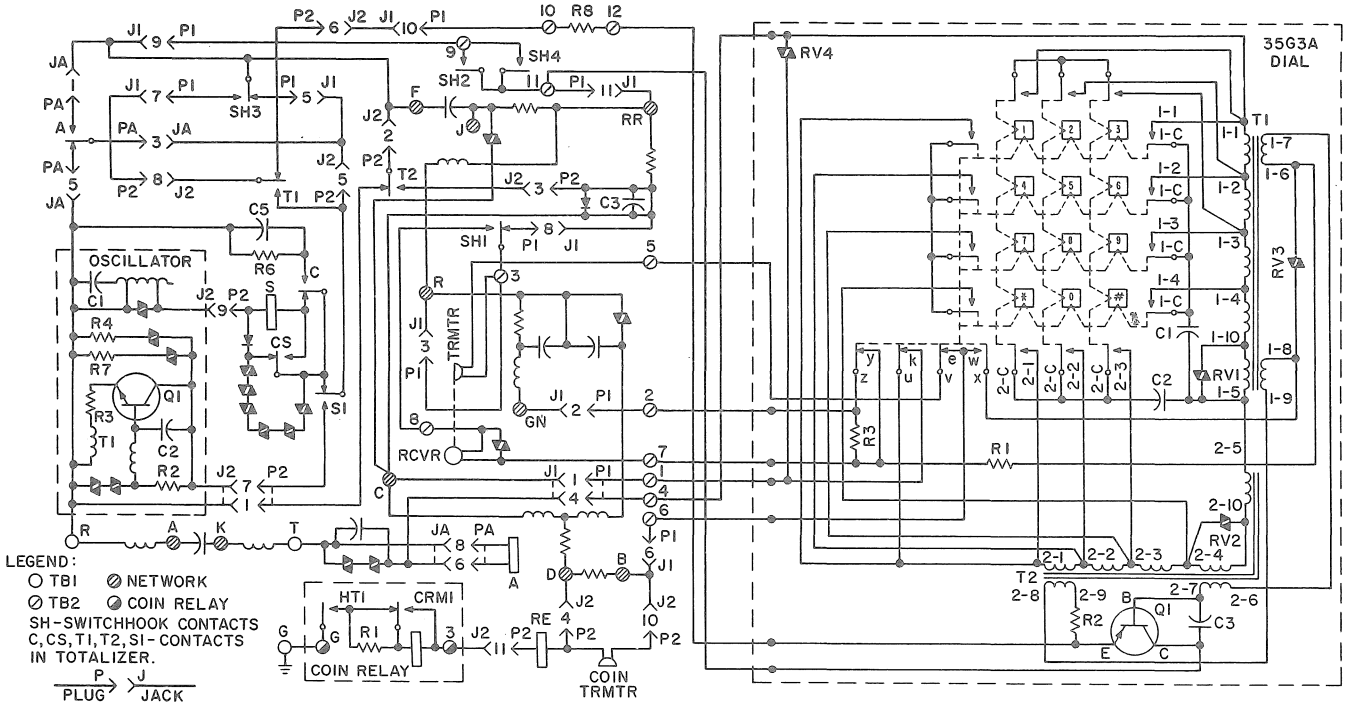


Fig. 11 — 1A2 and 2A2 Coin Telephone Schematic

COIN COLLECTORS
SPECIAL SIGNAL CONTROL EQUIPMENT

1. GENERAL

1.01 This Section provides identification, installation and ordering information for special signal control equipment used with coin collectors.

1.02 This Section is reissued to remove it from the limited distribution list and add it to the general distribution list.

1.03 Installation, maintenance and administration of the special signal control equipment shall be handled only on special local authority.

2. DESCRIPTION AND INSTALLATION INSTRUCTION

2.01 This equipment is applicable to both indoor and outdoor coin telephone locations and provides a means for operating signal equipment when the coin collector wiring is broken or when the upper housing is removed. An option is also provided to operate the signal equipment when the cash compartment door is removed.

2.02 Three arrangements for the control equipment are available.

1. Central Office Control.
2. Local Control.
3. Central Office and Local Control combined.

These arrangements are shown on Southern Bell Drawing 12S-12-2023.

2.03 The service order will specify the location of the signal equipment. It must be mounted in a sheltered area near an A.C. power outlet that is not under control of a switch. The maximum distance between the signal equipment and coin collector is 300 feet.

2.04 A typical wiring arrangement is shown for the local signal equipment.

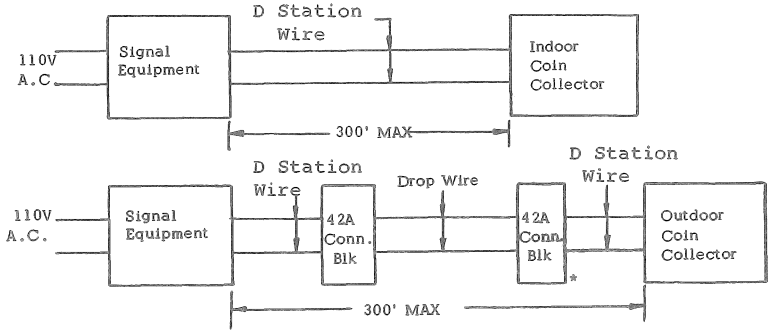


FIGURE 1

* Connecting block shall be installed behind top access plate of outdoor booth.

A.C. Power for the signal equipment shall be furnished from an outlet not under control of a switch.

2.05 The location and wiring of the control equipment in the coin collector is shown in Figures 2 and 3.

2.06 The material required for the control and signal equipment may be obtained through normal supply channels by ordering as follows:

(A) Central Office Control:

(Quantity) Resistor, KS-13490,L1 1/2 W, 15K or Equivalent

(Quantity) Assembly, Alarm Switch P-372083

(B) Local Control:

(Quantity) Kit, Alarm, CS-598

(Quantity) Switch, 227A

(Quantity) Assembly, Alarm Switch P-372083

(C) Central Offices and Local Control:

(Quantity) Resistor, KS-13490, L1, 1/2 W, 15K or Equivalent

(Quantity) Assembly, Alarm Switch P-372083

(Quantity) Kit, Alarm, CS-598

(Quantity) Switch, 227A

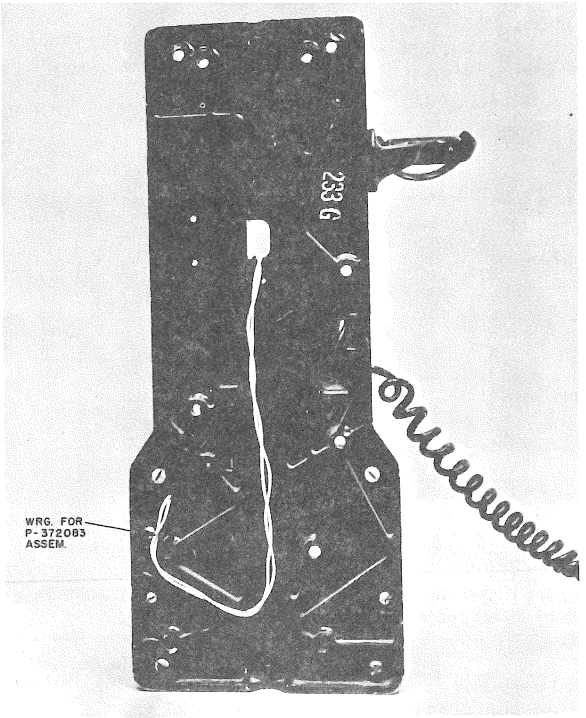


FIGURE 2

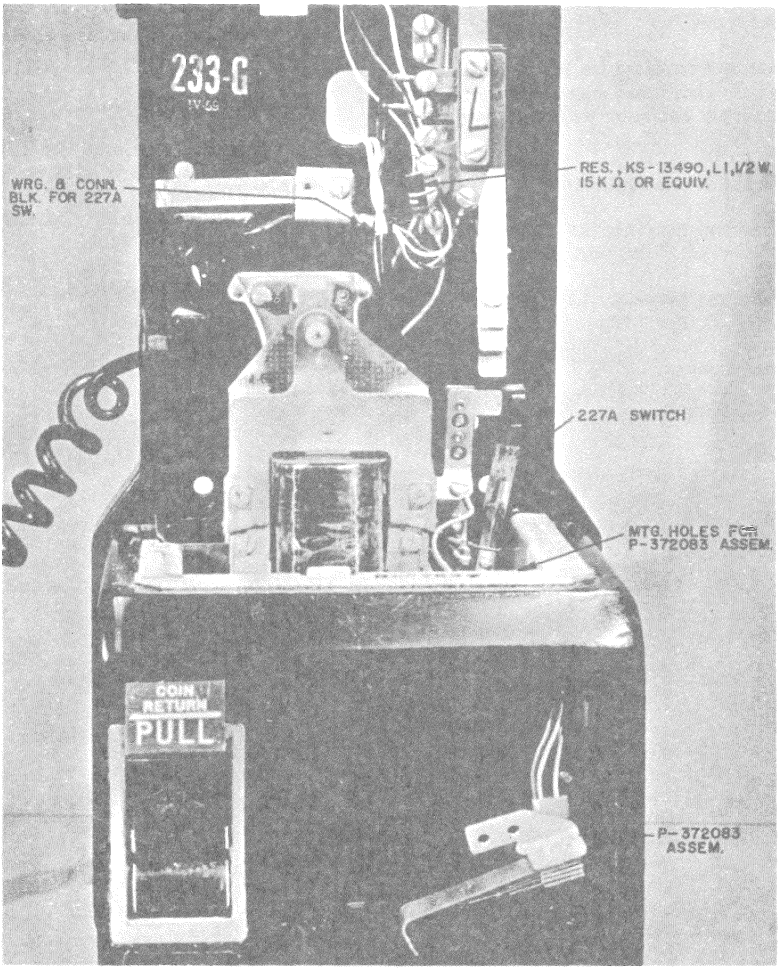

233-G
WRG. & CONN. BLK. FOR 227A SW.
RES., KS-13490, L1, 1/2 W. 15 K Ω OR EQUIV.
227A SWITCH
MTG. HOLES FOR P-372083 ASSEM.
COIN RETURN PULL
P-372083 ASSEM.

FIGURE 3

NOTES:

1. Cash compartment door must be removed before P-372083 assembly is installed.

2. The P-372083 assembly must be installed before coin collector is mounted.

3. When the P-372083 assembly and the 227A switch are both used the P-372083 assembly must be mounted first.

4. The coin collector must be mounted before the 227A switch is installed.

FIG. 1
STATION SET

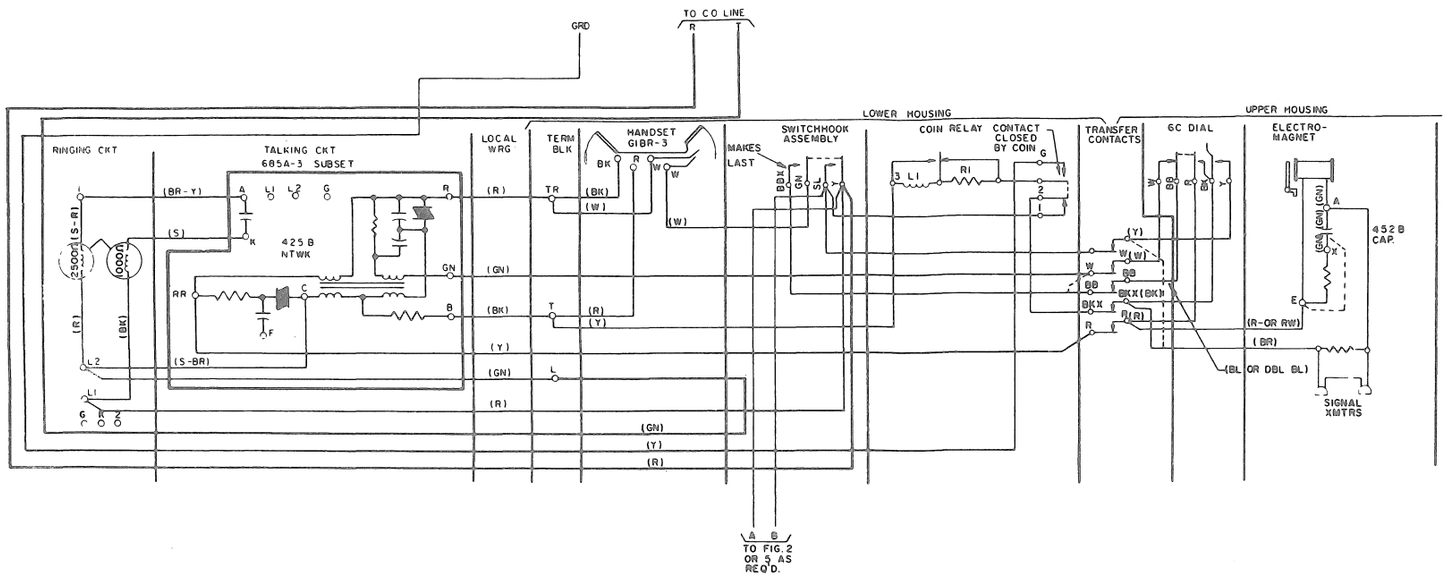
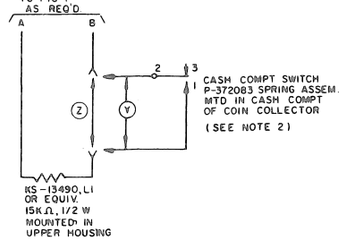


FIG. 2
CO CONTROL



NOTES

TO MOUNT THE 227A SWITCH THE SCREW WHICH MOUNTS THE BKX TERM 8 THE ONE SCREW WHICH SCREWS INTO THE 1A RAIL THROUGH THE RELAY TRAY, MUST FIRST BE REMOVED
THE SWITCH IS THEN MOUNTED USING THE SAME SCREW FOR THE BKX TERM MOUNTING HOLE 8 USING THE LONGER SCREW FURNISHED WITH THE SWITCH FOR THE HOLE IN THE 1A RAIL
IT IS RECOMMENDED THAT THE SWITCH BE POSITIONED WITH THE SCREW THROUGH THE BKX TERM BEFORE INSERTING THE SCREW THROUGH THE RELAY TRAY

2 THE P-372083 SPRING ASSEMBLY SHALL BE INSTALLED AS FOLLOWS

A REMOVE THE COIN RECEPTACLE THE SPRING ASSEMBLY MUST BE INSTALLED IN THE PORTION OF THE LOWER HOUSING THAT HOUSES THE COIN RECEPTACLE

B CONNECT WIRES TO FIBRE TERMINAL BLOCK

C WRAP FIBRE TERMINAL BLOCK WITH INSULATING TAPE TO PREVENT GROUNDING OF THE TERMINALS

D PLACE FIBRE TERMINAL BLOCK ABOVE THE RIGHT-HAND FLANGE OF THE GUIDE RAIL IN THE LOWER HOUSING THIS IS NECESSARY TO PREVENT THE FIBRE TERMINAL BLOCK FROM INTERFERING WITH THE INSERTION AND REMOVAL OF THE COIN RECEPTACLE

E POSITION THE SPRING ASSEMBLY IN THE SPACE BETWEEN THE RELAY TRAY AND THE LOWER HOUSING WITH THE OPERATE SPRING IN THE CENTER AND THE MOUNTING HOLES UP AND TO THE RIGHT ATTACH THE ASSEMBLY USING THE TWO SCREWS PROVIDED WITH THE ASSEMBLY MOUNTING HOLES ARE EXISTING IN THE RELAY TRAY

3 MAX DISTANCE BETWEEN CONTROL EQPT & COIN COLLECTOR 300'

4.

FEATURE OR OPTION		PROVIDE		
		WRG OR APP	FIG	QUANTITY
CO ALARM	CASH COMPT SW NOT REQ'D	Z	1&2	1 PER STA
	CASH COMPT SW REQ'D	Y	1&2	1 PER STA
LOCAL ALARM	CASH COMPT SW REQ'D	X & V	3&4	1 PER STA
	UPPER HOUSING SW. REQ'D.	W & U	3&4	1 PER STA
	CASH COMPT & UPPER HOUSING SWITCHES REQ'D	U & X	3&4	1 PER STA
C O & LOCAL ALARM	WHEN REQ'D		1,3&6	

FIG. 3
SIGNAL EQUIPMENT

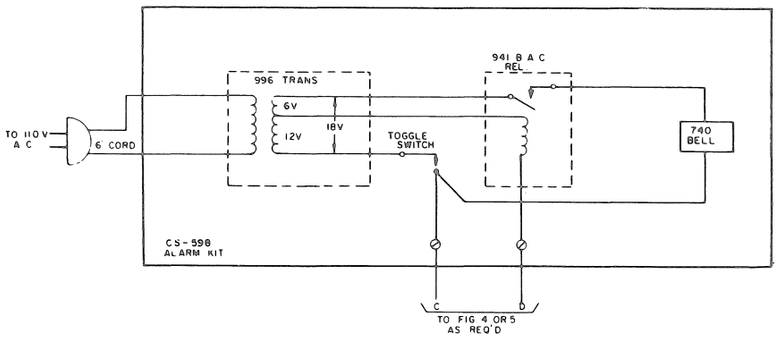


FIG. 4
LOCAL CONTROL

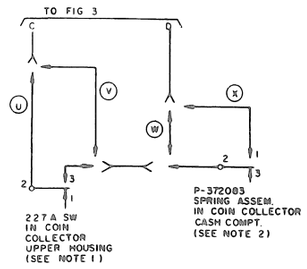
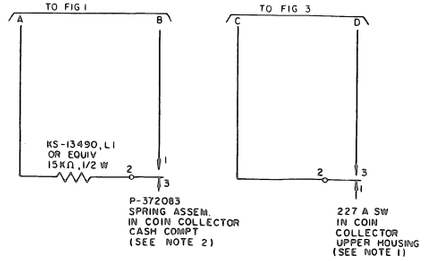


FIG. 5
CO & LOCAL CONTROL



COIN COLLECTORS

INSTALLATION

1. GENERAL

1.001 This addendum supplements Section 506-110-200, Issue 6.

1.002 This Addendum is reissued to provide instructions for coinless public telephone service at locations where it is likely that a high percentage of long distance calls are sent collect, charged to a credit card or third number.

1.003 This addendum provides a method of identification when coin collectors containing a coin receptacle are returned to the storeroom. It also provides procedures to be followed on inside moves and change of equipment orders involving coin collectors.

1.004 Changes are denoted by marginal arrows.

2. LOCATION

The following changes apply to Part 2 of the section:

(a) 2.12 - 2.13 - 2.14 - Added

2.12 Coin Collectors and accessories shall be installed only where this work can be performed in accordance with Bell System Practices. With the exception of semi-public telephone service, the location of coin collectors and accessories will be specified on the service order. The location of coin collectors and signs for semi-public telephone service will be determined by the installer at the time of installation when not specified on the order.

2.13 The instructions for the location of the coin collector and sign on other than semi-public telephone service shall accompany the service order or shall have been left on the subscriber's premises by the Public Telephone Representative. When left on the subscriber's premises, the service order will so state in the "Remarks" space. If the subscriber wants the location changed from that shown on the diagram the installer shall proceed as follows:

2.14 If a change in the location of signs or a coin collector is involved, the installer shall advise the assignment office of the desired change. The assignment office will call the appropriate local manager for instructions regarding what action should be taken and will hold the service order until the instructions are received.

14. COIN COLLECTOR REMOVALS - TAG IDENTIFICATION

Part 14 of the section is added.

14.01 When any coin collector containing the coin receptacle is removed and is to be returned to the storeroom the installer or repairman shall attach a tag with the following information shown thereon:

(a) The date and time of day that the plant work was performed.

(b) The telephone number when the regular station number card is not legible or not in place.

(c) The serial number of the key to the cash compartment of the coin collector installed in place of the coin collector removed for maintenance reasons or on inside moves and changes. The serial number is shown on a tag or piece of tape attached to the upper housing.

14.02 All signs shall be removed at the time the instrument is removed.

14.03 Special protective equipment installed in accordance with Commercial Department orders is not to be removed and the type of equipment on location will not be changed except by service order authority.

15. COIN COLLECTOR - T AND F ORDERS

Part 15 of the section is added.

15.01 The installer shall furnish the Plant Assignment office the serial number of the key to the cash compartment secured from the tag on the upper housing of any instrument taken from the storeroom to be installed. (To be placed on Commercial copy of "T" portion of the service order by the Plant Assignment office).

15.02 The installer shall notify the Plant Assignment office if instrument is left in at old address. (Shown on Commercial and other necessary copies of the "F" portion of the service order by the Plant Assignment office.)

15.03 On a "T" and "F" order the instrument may be removed at the old address and in installed at the customer's new address, in which case no tag identification or serial number information is necessary. Unless the instrument is installed for the same customer it shall be returned to the storeroom.

16. COIN COLLECTOR - INSIDE MOVE OR CHANGE OF EQUIPMENT ORDERS

Part 16 of the section is added.

16.01 Where a new instrument is substituted on an inside move or change of equipment order, the installer shall furnish the Plant Assignment office the serial number from the upper housing of the new instrument. (To be placed on Commercial copy of the service order by the Plant Assignment office.)

17. COIN COLLECTORS - NEW CONNECT

Part 17 of the section is added.

17.01 The serial number of the key to the cash compartment secured from the upper housing of the installed instrument is furnished to the Plant Assignment office by the installer. (To be placed on Commercial copy by the Plant Assignment office.)

18. COIN TELEPHONE SUBSCRIBER COLLECTIONS

Part 18 is added to the section.

18.01 In certain cases the Commercial Department will arrange with the subscriber to make coin telephone collections.

18.02 On each service order designating the "connection of" or "change to" coin telephone service which is to be subscriber-collected, the Commercial Department will type the code "SK" (for subscriber has key) following and separated by a dash from the class of service "PT" or "SPT". They will also type in the remarks space the entry "Install Msg. Meter" (for install local message meter).

18.03 On service orders issued on existing subscriber-collected telephone service which involves plant work, the code "SK" will be shown following the class of service and the notation of the person who holds the key will be shown in the remarks space.

18.04 In case of a service order changing existing coin telephone service from company-collected to subscriber-collected, the Commercial Department will make a final collection and advise Plant to connect and read the local message meter.

18.05 In case of a service order changing an existing coin telephone service from subscriber-collected to company-collected, the Commercial Department arranges for the subscriber to make a final collection and advises Plant immediately to disconnect and read the local message meter.

18.06 It will not be necessary to hold service orders which involve final collection on subscriber-collected coin telephone service in as much as the Commercial Department will advise the subscriber as to the final collection and placing of the out of service sign.

Note: Upon introduction of USOC (Uniform Service Order Codes) public telephone service customer provided key will be designated 1-PCAB and semi-public customer provided key will be designated 1-SPAB.

19. ONE-WAY PUBLIC COIN TELEPHONE SERVICE

Part 19 is added to the section.

19.01 One-way public coin telephone service is provided at selected locations,

particularly industrial, to permit the employees of these locations to make outward telephone calls only. These locations are selected where it would not be feasible to permit inward telephone calls to be received.

19.02 Supplemental Instruction Card, Form 6860, is placed, in addition to the standard pay station instruction card, in an 8 type card holder that informs the customer that this telephone is equipped for placing outgoing calls only. The 8 type card holder should be mounted on the top of each one-way public coin telephone placed in service.

19.03 The connector terminal assigned to this type service will be connected to an operator intercept trunk by the central office forces to enable incoming calls to be intercepted by the operator.

20. COINLESS PUBLIC TELEPHONE SERVICE

Part 20 is added to the section.

20.01 Coinless Public Telephone Service is provided at locations where it is likely that a high percentage of long distance calls are sent collect, charged to a credit card or third number.

20.02 A toll terminal number, in addition to a regular seven-digit ANC telephone number, is assigned to each coinless public telephone. Toll terminals associated with "coinless public telephones" are multipled throughout the switchboard in the same manner as regular coin telephone trunks. The toll terminal number shall appear on the regular station number card with the telephone number.

20.03 The coinless station shall be a manual type hang-up wall set in harmonizing color to match coin telephone apparatus in the adjacent booths. The service order covering the installation will specify the color.

Exhibit 1 contains information and instructions for mounting a coinless station in a booth. It also includes specifications for an apparatus blank or backboard to cover the coin collector mounting surface. This apparatus blank or backboard will be made up locally.

20.04 A special instruction card, Form 6016, shall be placed in the 50L type apparatus blank which is to be mounted immediately over the hang-up wall set. Form 6016 informs the customer that this is a direct line to the long distance operator for placing collect calls, credit card calls or calls charged to third telephones.

20.05 Supplemental Instruction Card, Form 6016A, is provided for installation in the KS-type advertising frames inside regular coin telephone booths adjacent to the coinless station informing the customer that a direct line to the long distance operator is available. Instructions for placing this card will be shown on the service order by the Commercial Department.

20.06 The physical arrangement of existing coin telephones with which a coinless station is associated will dictate the size, placement and adequacy of a directional sign to divert potential collect, credit card and third number users to coinless stations. The ultimate objective, of course, is an effective sign that will be readily seen by potential users.

Directional signs will be provided locally. Shown below is the suggested wording of the directional sign to be used:

FOR YOUR CONVENIENCE

DIRECT LINE TO OPERATOR

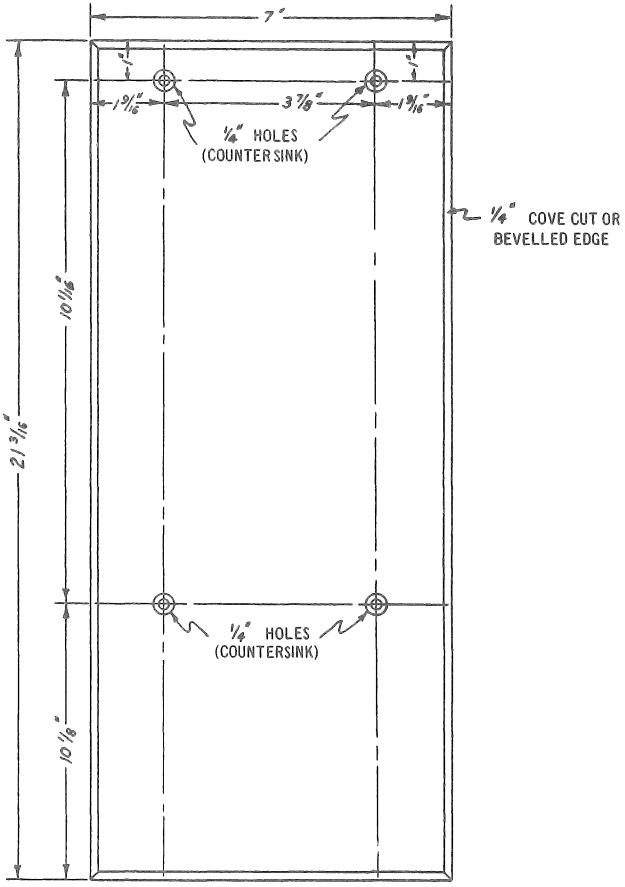
FOR

CREDIT CARD & COLLECT CALLS

(Arrow here pointing to the coinless station booth)

MATERIAL:

1. APPARATUS BLANK ½" BIRCH PLYWOOD FINISHED NATURAL OR AS LOCALLY SPECIFIED. PROVIDE LOCALLY.
2. 50L APPARATUS BLANK
3. 4-¼-20 x 1" PHILLIPS OVAL HEAD SCREWS



INSTALLATION INSTRUCTIONS

1. REMOVE COIN COLLECTOR.
2. INSTALL APPARATUS BLANK ON COLLECTOR MOUNTING SURFACE.
3. MOUNT WALL SET AND/OR 50L APPARATUS BLANK ON THE PLYWOOD APPARATUS BLANK AS LOCALLY SPECIFIED. DRILL AS NECESSARY TO PROVIDE WIRE ENTRANCE AND MOUNTING HOLES.

EXHIBIT 1

COINLESS PUBLIC TELEPHONE

MOUNTING ARRANGEMENT

COIN COLLECTORS/COIN TELEPHONES
INSTALLATION

1. GENERAL

1.01 This section is reissued to:

- Delete information on 2-coil relay.
- Delete information on fasteners.
- Revise illustrations.
- Revise text.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.02 Connections for each type coin station are given in the appropriate connection section.

LOCATION

Note: The location of a coin collector should be specified by the service order or an accompanying work sheet. If a location is not specified, obtain instructions from the customer before proceeding.

1.03 Consider the following:

- Visibility, accessibility, and convenience to customers
- Sufficient light
- Privacy
- Absence of noise and vibration
- Clearance from oily or dirty surfaces
- Clearance from stoves and heaters
- Clearance from moving machinery, piled merchandise, or narrow aisles

1.04 Locations over or adjacent to glass counters, showcases, or other property which may be damaged by falling handsets should be avoided.

Mounting Surfaces

1.05 Consult a supervisor before locating coin stations on finishes that would be expensive to repair if the set is removed.

1.06 Have customer or building owner drill mounting and wire entrance holes through glazed tile, marble, or similar surfaces.

Inductive Effects

1.07 Locate set and associated wiring at least 6 inches from neon fixtures, transformers, or other interference-causing equipment.

Security of Coin Station

1.08 Avoid locations where:

- Coin station can be dislodged by hard use.
- Fasteners cannot be placed in solid backing.
- Coin station can be pried loose (on round columns, door or window facings, uneven surfaces, etc.).

Booths, Shelves, and Mountings

1.09 Location requirements for booths, shelves and mountings are shown in the appropriate installation section.

WIRING

1.10 Select and place wire in accordance with section covering wiring.

1.11 Wire coin station with triple station wire to provide an individual ground conductor for each station.

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- The ground connection must be the same as for signaling grounds. (Refer to Section 638-210-100.)

1.12 Conceal wiring near coin station. If this is not practical, use approved molding or woven conduit to cover wiring.

1.13 Locate connecting block, protector or other terminating apparatus where it is not accessible to person using coin station. If necessary, locate protector outside building.

BACKBOARDS

1.14 See Section 506-110-105 for installation of backboards.

Mount all coin stations on an approved backboard.

1.15 Backboard and coin station must be securely mounted with the required fasteners, mounting screws, security studs, and associated fasteners.

Note: If the coin station is wall mounted (not in a booth) the mounting surface must be plane. An uneven mounting surface will warp the backplate and cause misalignment between upper and lower housing.

2. INSTALLATION

Remove handset from switch hook before removing or replacing upper housing to avoid damage to the gate operating arm. Do not reassemble upper housing on prepay coin collectors without placing a P-10E783 cover over the coin relay.

Alarm Switches and Security Devices

2.01 Alarm switches and security devices are available as described in Section 506-110-103. The local telephone company shall regulate the installation of these devices.

2.02 The 233-, 234-, 1234-type coin collectors and 236-type coin telephones are equipped with the KS-19277 lock and P-25E301 bolt fastener (Fig. 1).

(a) If the P-25E302 bolt fastener is required, order separately and substitute for the P-25E301 fastener prior to mounting coin collector.

(b) If it is necessary to replace P-25E301 bolt fastener with P-25E302 bolt fastener, proceed as follows:

(1) Unlock upper housing locks.

To prevent damage to the tubular key when locking or unlocking KS-19277 lock, apply a slight forward pressure on the key while rotating it in either direction.

(2) Remove upper housing.

(3) Unscrew P-25E301 bolt fastener from the security stud hole and replace with P-25E302 bolt fastener.

Note: If molded plastic insulating material is on existing bolt fastener, remove all of this material before attempting to unscrew the bolt fastener from the security stud hole.

The fasteners must be screwed down tightly against the backplate when mounting coin collectors equipped with a bolt or stud fastener or when changing from one type to another.

(4) Replace upper housing.

(c) For installation of bolt and stud fasteners on a coin collector in use, see Section 506-110-103.

2.03 Fig. 2 shows the suggested mounting height and clearance for all coin stations. Stations may be mounted at other heights to meet local conditions providing this does not create service or maintenance problems.

2.04 To mount coin station:

(1) Place required number of screw fasteners in upper and lower mounting holes.

Note: If coin compartment is not open, the lower fasteners will be added later by the public telephone representative.

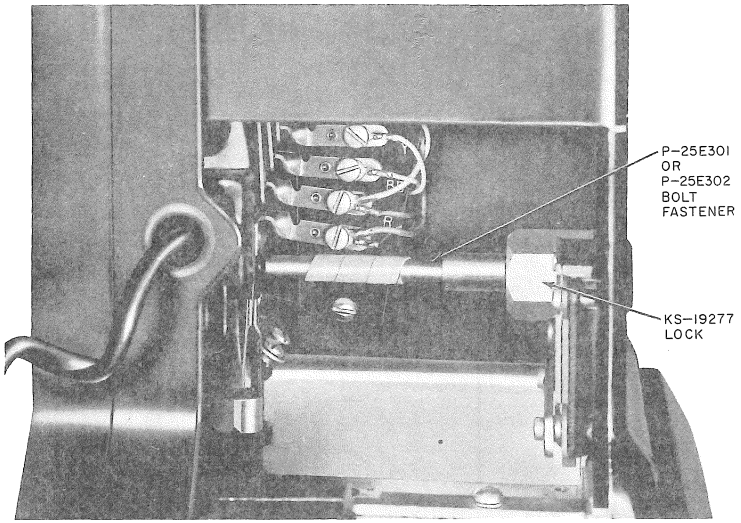

Fig. 1—Cutaway Section of Upper Housing, KS-19277 Lock and Associated Parts, Completely Installed

(2) Bring wires through opening in backplate.

(3) Avoid bowing backplate by partially tightening each screw fastener alternately.

2.05 Location requirements for associated subscriber sets are specified in sections covering installation of station sets, booths, shelves, and mountings.

2.06 Ground housing assembly, as follows:

(a) Prepay open type installation

- Connect JKT lead or GS insulated wire as shown in Fig. 3.
- Dress wire so that it will not interfere with moving parts of coin mechanism or coin relay shield.

(b) Indoor wooden booths

- A 14-gauge insulated ground wire (P-12C414 ground wire assembly) is provided. (Fig. 4)
- Connect ground wire from outside grounded BX armored power cable to ventilator or blower and to housing ground screw on coin station.

(c) Metal booths

- Grounding is provided through mounting screws.

(d) 19-and 20-type shelves

- See (a)

2.07 To ground upper housing to backplate:

- Place U-shaped spring clip on left edge of upper housing so as to contact housing contact spring (Fig. 5).

2.08 To mount 8-type cardholder.

(1) Remove and retain the four slotless screws located at the rear of the coin gauge.

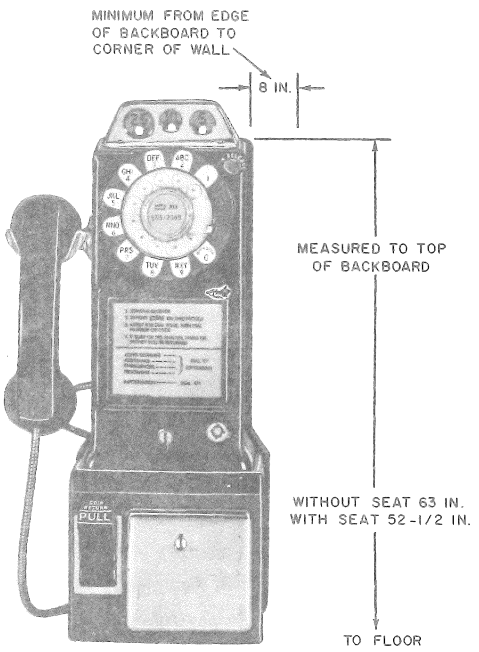

Fig. 2—Suggested Mounting Height and Clearance

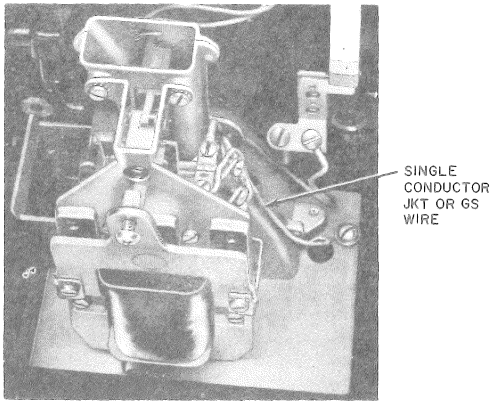

Fig. 3—Method of Grounding Coin Collector Housing Assembly, Open Type Installation

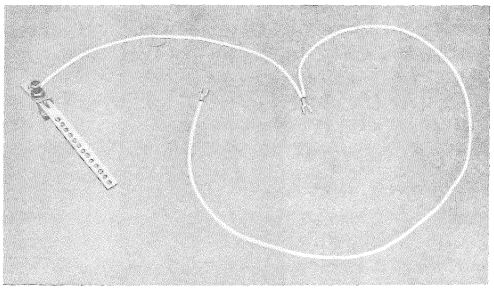

Fig. 4—P-12C414 Ground Wire Assembly

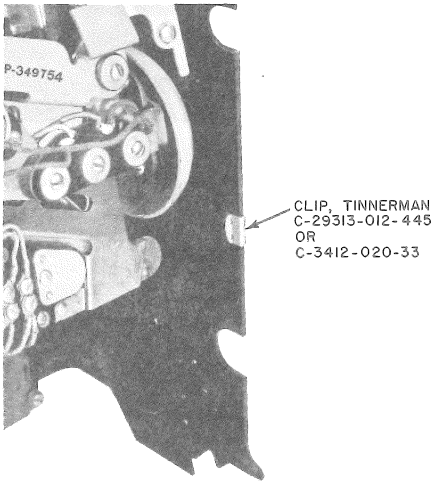

Fig. 5—Method of Grounding Upper Housing to Backplate

(2) Attach cardholder to upper housing with screws and nuts removed previously or use the following new hardware;

- P-81J700 RH slotless machine screws (last two digits signify color)
- P-423631 external-tooth lockwashers
- P-92383 hexagon nuts

2.09 The 50-type apparatus blank may be used as an instruction cardholder.

(a) Two plugged mounting holes are located below the dial in the upper housing.

(b) use two P-222882, No. 4-36 by 1/4 inch RH machine screws to mount blank.

AUXILIARY HANDSET DEVICES

2.10 Transmitter and Receiver Cap Locks

- Install cap locks per Section 501-210-101.
- Refer to Section 501-210-102 for cemented receiver caps.

2.11 Antifrost Transmitter Cover

(a) The 118A cover is intended for use on F- and G-type handsets where subfreezing temperatures occur (Fig. 6).

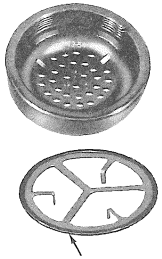

Fig. 6—118A Transmitter Cover

- Mounts on transmitter cap exterior to prevent condensed grid moisture from freezing in grid holes of cap.
- Use as designated locally.

2.12 Antifraud Transmitter Unit

- Install per Section 501-230-100.

2.13 Handsets With Armored Cords

- Install per Section 506-110-103.

OUT-OF-SERVICE NOTICES

(a) If coin station is not ready for service when installation work is completed, place KS-7991 sign (Fig. 7) or E-4914 Form (Fig. 8) on coin gauge so customers will not deposit coins.

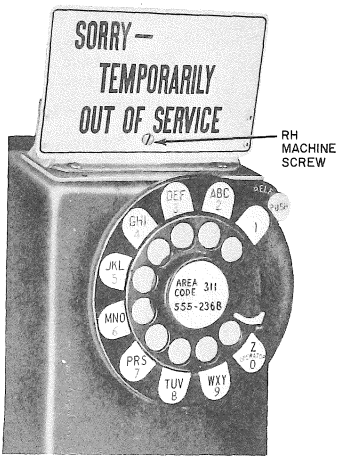

Fig. 7—KS-7991 Sign in Place Over Coin Gauge

Fig. 8—Form E-4914

(b) A book of E-4914 Forms is included in the packing container of each new coin collector/telephone.

When coin station is placed in service, leave book of E-4914 Forms with agent and give instructions for use when coin station is out of service.

(c) The KS-7991 sign is not included and must be ordered separately.

- Mounts by means of a No 8-32 by 3/4 inch RH machine screw and a self retained speed nut, Tinnerman C-6724-832-373 (Fig. 7 and 9).

PRESERVE THIS SIGN
SORRY — TEMPORARILY OUT OF SERVICE
FOR USE WHEN TELEPHONE IS TEMPORARILY OUT OF SERVICE
ATTACH AS SHOWN AND CALL REPAIR SERVICE IMMEDIATELY FROM ANOTHER TELEPHONE
BELL SYSTEM

Fig. 9—Rear View of KS-7991 Sign

RELAY COVER

On 230-, 233-, 234-, 235-, 236-, 1234-, and 1235-type coin collectors/telephones, place P-10E783 plastic coin relay cover over relay before assembling upper housing on backplate.

3. FINAL TESTS, CHECKS, AND INSPECTION

3.01 Refer to Section 506-110-301 for tests.

3.02 Check that numberplate, instruction card, and directory are in place.

3.03 Inspect area around the installation and ensure that all debris is removed.

COIN COLLECTORS/COIN TELEPHONES (PREPAY-MULTISLOT) MAINTENANCE

1. GENERAL

1.001 This addendum supplements Section 506-110-301, Issue 5.

1.002 This addendum is reissued because of reissuance of the main section.

4. UPPER HOUSING

The following change applies to Part 4 of the section:

(a) 4.01 - Sub-paragraphs 4.01(c) and 4.01(c)(1) - added

4.01 (c) When dial replacement is required or if the number card holder and card are missing from metal fingerwheels, the metal fingerwheel shall be replaced with a plastic fingerwheel (P11E007) and a new number card.

4.01 (c)(1) Replace the metal fingerwheel as follows:

Remove the fingerwheel nut and washer.

Place a clamp plate (P-11E206) on the fingerwheel bolt. The clamp plate spring must be positioned pointing between the digits 9 and 0 on the number plate.

Replace the fingerwheel washer and nut.

The plastic fingerwheel can now be installed or removed by the method used on plastic fingerwheels of other type apparatus. However, due to the convex construction of the plastic fingerwheel it may be necessary to bend the finger stop to allow free operation of the wheel. Caution should be exercised in bending the finger stop to prevent breaking or overbending.

The plastic fingerwheel and clamp plate are ordered as follows:

(Quantity) P-11E206 Clamp Plate

(Quantity) P-11E007 Fingerwheel

7. DISPOSITION AND HANDLING OF LOOSE COIN AND SLUGS FOUND IN COIN COLLECTORS

Part 7 is added to the section.

7.01 Where repeated cases of slugs in coin chutes and fraudulent operations of pay stations are encountered or where any unsatisfactory service conditions are observed that should be handled by the Commercial Department, the installer or repairman shall refer the matter to his supervisor.

7.02 All loose coins and slugs found in coin collectors by installers or repairmen shall be replaced in the coin hopper and collected. The amount of money and the number of slugs so collected shall be reported to the test deskman for entry on Test Center Records. An example of such reporting is as follows: $3.60 and 3 slugs. When claims for losses are made by the customer or others at the scene, the person(s) making such claims should be tactfully referred to the business office.

7.03 When bent or misshapen coins are found clogged in coin collector, they shall be wrapped with a small piece of friction tape before they are deposited in the coin hopper and collected. This procedure will enable the coin counting clerks to readily identify such coins and arrange to have them removed from circulation.

7.04 In those cases where there are more

loose coins or slugs found than can be collected due to the coin receptacle having reached its capacity, the remaining coins or slugs shall be placed in the coin hopper. If the coin hopper will not hold all of them, the remaining ones shall be stacked around the coin relay in space that will not interfere with placing of the upper housing. The upper housing shall then be replaced and an "out of order" sign placed on the coin collector. The amount of money and slugs not collected shall be reported to the test deskman in the manner specified in Paragraph 7.02.

7.05 The handling of loose coins and slugs found in coin collectors as outlined above is necessary so that the Commercial Department employee responsible for collecting from coin box stations can collect all coins at the station without further handling by the Plant Department.

7.06 From time to time and without advance notification, management employees make various protective checks in order to detect any indication of improper handling of Company funds.

8. REPLACEMENT OF COIN COLLECTORS DUE TO LOSS OR DAMAGE BY ROBBERY, VANDALISM OR OTHER REASONS

Part 8 is added to the section.

8.01 When replacement of coin collectors is necessary due to loss or damage by robbery, vandalism or other reasons and is not authorized by service order authority, the serial number of the key to the cash compartment secured from the upper housing shall be reported to the Test Center by the workman. The Test Center will furnish this information to the appropriate Commercial Department office as designated locally.

9. COIN TELEPHONE SUBSCRIBER COLLECTIONS - REPAIR VISITS

Part 9 is added to the section.

9.01 When troubles are reported on coin telephone stations and it is found that the trouble requires remounting or replacement of the coin collector, the workman will obtain the class of service from the test center. If the class of service as shown on the line card indicates that the service is a subscriber-collected station the workman should be so advised and furnished the name of the person who has possession of the coin compartment key. The workman will request the customer to open the coin compartment for access to the mounting screws and in event the collector is replaced the customer will be requested to transfer the coin box and cash compartment door from the existing collector to the one being placed in service.

COIN COLLECTORS/COIN TELEPHONES
(PREPAY-MULTISLOT)
MAINTENANCE

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1. GENERAL

1.01 This section is reissued to:

- Change title
- Include the 146B Bias Margin Gauge
- Include information formerly contained in Sections 506-110-302 and 506-110-305, which are hereby canceled.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.02 Component parts (dials, ringers, handsets, etc,) should be maintained in accordance with section covering the particular item.

1.03 When trouble cannot be cleared:

(a) Notify testdesk.

(b) Place KS-7991 out-of-service sign on coin collector or E-4914 out-of-service tag over coin gauge.

1.04 When service is restored:

(a) Remove sign or tag.

(b) Return sign to agent.

2. TOOLS, GAUGES, CORDS, AND MATERIALS

2.01 The following tools, gauges, cords, and materials are required in addition to those normally carried to perform work operations outlined in this section.

ITEM	USE
139B Tool	Leveling coins
265C Tool	Burnishing contacts
376A Tool	Viewing contacts
466A Tool	Adjusting housing contacts
528A Tool	Removing foreign material from locks
641A Tool (2 req'd)	Mounting 5-type dials
710A Tool	Removing switch hooks in corner mounted coin stations
719A Tool	Opening door on 235- and 1235-type coin telephones
KS-14995 Tool	Trap and vane release test
KS-16750, L2 Releaser	Removing dial finger wheels
TP-75503 Spring hook	Assembling springs on pull bucket
Center punch	Removing and replacing pull bucket shaft
1/2-inch cold chisel	Removing plastic pull bucket
146B Gauge	Coin relay bias margin test
178A Gauge	Gate operating arm adjustment (shaft type)
178B Gauge	Gate operating arm adjustment (yoke type)
P10B Cord	Electrically connecting upper to lower housing (236-, 1234-type)
P11C Cord	Electrically connecting door to housing assembly (235-, 1235-type)
KS-6320 Orange stick	Removing stuck coins
No. 6 Sash brush	General cleaning

ITEM	USE
KS-13786 Nylon brush	Cleaning coin return
KS-14164 Brush	Cleaning washer reject mechanism
KS-2423 Cotton twill cloth	Cleaning
KS-7860 Petroleum spirits	Cleaning
KS-16601, L1 Paper	Cleaning
No. 320 Aluminum oxide cloth	Cleaning housing contacts
KS-14774, L1 Grease	Lubricating
KS-19094, Anti-seize Compound	KS-19277 Security lock
Pipe cleaners	Cleaning coin gauge
Lead Pencil (2B or softer)	Lubricating switch hook and coin release mechanism
Paper clip	Dial shorting
Tinnerman clips (C-29313-012-445 or C-3412-020-38)	Upper to lower housing group clip
P-12A745 Spacer	Reduce upper housing vertical play
P-29872 Spacing washer	2-piece switch hook
Form E-4914 or KS-7991	Out-of-service tag or sign

3. CLEANING

Remove handset from switch hook before removing or replacing upper housing to avoid damage to the gate operating arm. Do not reassemble upper housing without replacing coin relay dust cover.

3.01 *General Cleaning*

Check operation of coin station following cleaning operations which may affect the mechanism.

(a) To remove loose dirt or dust:

- Use cleaning paper, KS-2423 cleaning cloth or a No. 6 sash brush

(b) To remove sticky deposits:

- Use cloth or brush moistened with water.
- Wipe dry.

(c) To remove gummy deposits:

- Use cloth or brush moistened with KS-7860 petroleum spirits.
- Wipe dry.

KS-7860 petroleum spirits is flammable. Use safety precautions when handling.

3.02 *Coin Gauge*

(a) To clean dirty or sticky coin gauge openings:

- See 3.01
- Use moistened pipe cleaner to clean coin slots.

3.03 *Coin Chute*

(a) *DO NOT CLEAN COIN CHUTE*

- Replace if dirty or corroded
- Check for dirt at bottom of coin chute just back of the vertical step.
- Upper mounting screws or bayonet guides and springs may be cleaned with a KS-2423 cloth and KS-7860 petroleum spirits.

Do not lubricate nylon bushings, lower mounting screw, and rubber grommets.

- Replace if electromagnet armature, latch spring, or gate spring show definite signs of rust.
- Coin chute should be changed rather than replacing upper housing unless other conditions warrant change-out of the housing.

3.04 ***Coin Return***

(a) If coin return is badly corroded

- Replace instrument

(b) To clean coin return

- See 3.01

3.05 ***Housing Contacts***

(a) Clean contacts with No. 320 or *finer* aluminum oxide cloth.

(b) Wipe off with KS-16601, List 1 paper or KS-2423 cleaning cloth.

3.06 ***Locks***

(a) Use a 528A tool to remove foreign material from upper housing and security locks.

3.07 ***Washer Reject and Coin Release Mechanism***

(a) Remove upper housing and coin chute (see 4.04).

(b) If mechanism is damaged, replace upper housing.

(c) To clean:

- Remove dust from reject mechanism with dry KS-14164 brush.
- Clean start wheels and pushbutton with KS-7860 petroleum spirits applied with a KS-14164 brush.
- Wipe dry.

(d) If star wheels still do not move freely, replace upper housing.

- Do not lubricate.

Do not attempt to reposition or bend star wheels or castings.

(e) Lubricate shaft, of coin release pushbutton with No. 2B or softer lead pencil.

(f) Reassemble mechanism, see 4.04.

3.08 ***Coin Relay***

(a) Remove foreign magnetic particles which have accumulated on selector card magnet and pole piece extensions as follows:

(1) Fold a piece of rubber tape over the end of an orange stick.

(2) Depress selector card then hold armature operated.

(3) Press rubber tape against pole piece extension arms and magnets in selector card so that foreign particles adhere to tape.

4. UPPER HOUSING

4.01 ***Dial Replacement***

(a) Replace 4- or 5-type dial with 5-type dial.

- To mount 5-type dial on upper housing, locate two 641A tools in dial mounting holes as guide pins.

(b) Replace 6-type dial with 6-type dial.

- Assemble mounting studs to dial before mounting dial.

Note: Replacement of a 4- or 5-type dial with a 6-type dial involves added replacement of dial adapter, number plate, dial cord, and possible modification of upper housing; therefore, upper housing should be replaced rather than replacing a 4- or 5-type dial with a 6-type dial.

4.02 ***Coin Deflectors***

(a) The 63A dial adapter used with the 6-type dial incorporates a coin deflector to prevent dropped coins from lodging behind the dial.

(b) A P-14A544 coin deflector is used with the 5-type dial and the 56A dial adapter.

- P-14A544 coin deflector replaces earlier P-16A805 coin deflector.
- See Fig. 1 and 2 for installation.

Fig. 1—Method of Installing P-14A544 Coin Deflector

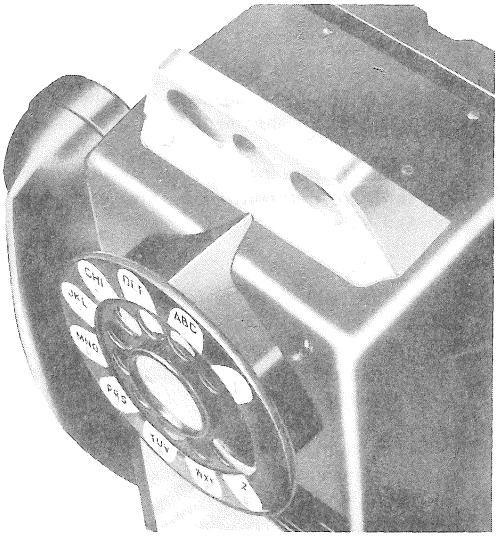


Fig. 2—P-14A544 Coin Deflector in Place

4.03 *Stuck Coins*

(a) To remove coins or slugs stuck in coin gauge:

- Use fingers or an orange stick, do not use a screwdriver or other metal object.
- If necessary loosen or remove coin chute. See 4.04.

(b) Replace upper housing if coin gauge is mutilated or distorted.

(c) To remove coins or slugs stuck in coin chute:

- Use orange stick or other nonmetallic tool.
- Remove coin chute, if necessary. See 4.04.

(d) Replace coin chute if coin channels are bent or damaged.

(e) Remove slugs, foreign coins or washers stuck in coin reject opening.

- Check reject opening with a standard coin before chute is reassembled in upper housing.

4.04 *Coin Chute Replacement*

(a) To remove coin chute from upper housing:

(1) Disconnect attached leads.

(2) Loosen filter, if present.

- Leave filter hanging loose.

(3) If gong signal assembly is mounted on swing type bracket:

- Remove mounting screws and swing out of way.

(4) Remove mounting screw.

(5) Remove bayonet guides by pushing them toward coin chute and rotating one-fourth turn in either direction.

(6) Lift coin chute from upper housing.

(b) If existing coin chute is equipped with gong signal assembly, capacitor, or resistor and the replacement chute is not so equipped, remove them and place on new chute.

- End of gate operating arm guide on capacitor mounting bracket should clear gate lever (Fig. 3).

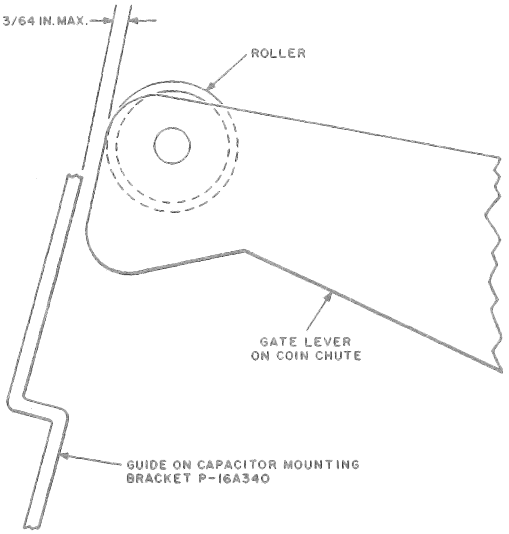


Fig. 3—Clearance between Guide and Gate Operating Arm

(c) To reassemble coin chute in upper housing, reverse removal procedure.

Caution: Bayonet guides not securely fastened may fly out when coin release pushbutton is depressed.

4.05 *Coin Chute Alignment*

(a) Check chute alignment with upper housing removed from lower housing and in a vertical position.

(1) Deposit nickel in 5-cent slot of coin gauge.

- Coin shall pass freely from gauge into chute.
- Coin should stop at first latch.
- Deposit second nickel.
- Locking latch should release, allowing coins to continue through channel.

(2) Deposit dime and quarter in 10- and 25-cent slots of coin gauge, respectively.

- Coins shall pass freely from gauge into chute and exit from chute.

(3) Deposit nickel in 25-cent slot of coin gauge:

- Coin shall pass freely from gauge into chute and pass through coin return channel.

(b) If coins do not enter chute freely, check that chute is properly positioned on mounting flanges, and that mounting screw and bayonet guides are secure.

- Do not use washers to align chute.
- Do not attempt to straighten distorted chutes.

(c) If above checks fail, try another chute. If coin still fails to enter chute freely, replace upper housing.

4.06 *Coin Signals*

(a) Make certain coins strike signal gongs at time coin chute alignment tests are made.

Final judgment of coin signal tones shall be determined by the operator. See 6.04.

(b) Coin signals shall be as follows:

(1) When a nickel or quarter passes through the coin chute, the associated gong should emit one clear signal.

(2) When a dime passes through the chute, the gong should emit two clear signals.

(3) If signal is poor:

- Check for interference caused by improperly dressed wires.
- Check that gongs are the proper type and fastened securely.
- Check for broken coin signal transmitter wires.

(c) Signal gongs

- Oval gongs should be mounted so that punch mark is within 1/8-inch of the center plane of the gong and at right angles to face of gong mounting bracket.

- Round gongs may be rotated to any position.

- Make sure quarter does not override quarter gong.

(d) Replace coin chute, if satisfactory signals cannot be obtained.

4.07 *Coin Release Mechanism*

(a) Coin chute shall rest against both flanges of frame assembly, not against pushbutton mechanism.

(b) When pushbutton is fully depressed top of the coin chute should move approximately 1/4-inch.

- Gradual release of pushbutton should allow coin chute to return freely to its normal position.

If cardholder mounting screw interferes with electromagnet cover, clip off end of screw.

(c) Pushbutton should not bind at any point in its fully in or fully out position over its length of travel.

(d) Replace upper housing if pushbutton does not meet above requirements.

4.08 *Cord Interference*

(a) Cords or wiring should not interfere with passage of coins through coin chute or with any moving parts.

4.09 *Security Lock*

(a) Upper housing may be equipped with KS-19277 lock assembly for additional security.

- When upper housing is removed, apply KS-19094 antiseize compound to threaded area of bolt or stud fastener which engages the security lock.

5. LOWER HOUSING AND BACKPLATE ASSEMBLY

5.01 *Transmitter and Receiver Cap Locks*

- Refer to Section 501-210-101.

- Replace damaged handset per Section 506-110-103.

5.02 *Antifrost Transmitter Cover*

- Refer to Section 506-110-200

5.03 *Antifraud Transmitter Unit*

- Refer to Section 501-230-100.

5.04 *Handsets With Armored Cords*

- Refer to SEction 506-110-103.

5.05 *Defective Capacitor*

(a) Replace 195C capacitor if filling compound is leaking or container is collapsed.

5.06 *37A Varistor*

- If varistor is used, ensure that it is properly connected.

- Replace varistor if insulating finish on lead-out terminal is cracked or chipped.

5.07 *Full Coin Receptacle*

(a) To temporarily clean coin paths blocked by full coin receptacle:

- Insert 139B tool through leveling hole in base of mechanism to level coins.

(b) To determine coin level:

(1) With tool touching coins, move sliding indicator as far downward as possible.

(2) Remove tool; note indicator position on calibrated scale.

(c) Report findings to test desk to prevent a repeated full coin box condition before collection.

(d) If service cannot be cleared, place out-of-service sign or tag.

5.08 *Switch Hook Operation*

(a) Switch hook shall not be cracked, broken, or bent.

(b) Switch hook shall move freely. Test as follows:

(1) *Slowly* lift handset from switch hook:

- Switch hook shall move upward and come to a positive stop against backplate.

(2) *Slowly* lower handset onto switch hook:

- Switch hook shall move downward and come to a positive stop against backplate.
- If failure occurs, check operation of gate on coin chute.
- See 5.11 for gate operating arm adjustments.

(c) Replace switch hook if failure is due to over travel caused by worn switch hook stops.

(d) Check for binding between switch hook and upper housing:

- Make certain that vertical and lateral movement of upper housing does not interfere with switch hook operation.
- Replace upper housing if switch hook binds.

(e) On earlier type coin collectors (those with terminals on a wooden block), if switch hook binds, proceed as follows:

(1) Loosen set screw and remove pivot pin.

(2) Take care not to burr bearing surface of pin.

(3) Replace pin if bent or corroded.

(4) Clean pin, bearing surfaces of switch hook, lugs on backplate, hard rubber stud on switch hook, and adjacent spring. See 3.01.

(5) Lubricate with 2B or softer lead pencil.

(6) Reassemble switch hook. Pivot pin shall be within 1/64- to 1/32-inch from end of hole in switch hook. Tighten switch hook.

(7) Replace coin collector, if above operations do not clear trouble.

5.09 *Switch Hook Replacement*

(a) To remove shaft-type switch hooks from corner mounted coin stations without dismounting coin collector:

(1) Remove hex head machine screw, lockwasher, and gate operating arm assembly and any spacing washers from right end of bearing shaft.

(2) Place large notch of 710A bending tool on switch hook hub. (Fig. 4A).

(3) Push tool to right, bending switch hook shaft.

(4) Place small notch of 710A bending tool over switch hook shaft. (Fig. 4B).

(5) Continue moving tool to right, applying bends as needed to remove switch hook from lower housing.

(b) To install 2-piece switch hook:

(1) Disassembly switch hook (Fig. 5).

(2) Place adapter shaft in right bearing of backplate.

(3) Place switch hook shaft in left bearing of backplate.

(4) Slide shaft into socket of adapter shaft.

(5) Fasten parts together with flat head screw provided.

(6) Replace gate operating arm lock washer and hex head machine screw.

- End play of switch hook shaft should not exceed 1/32-inch.

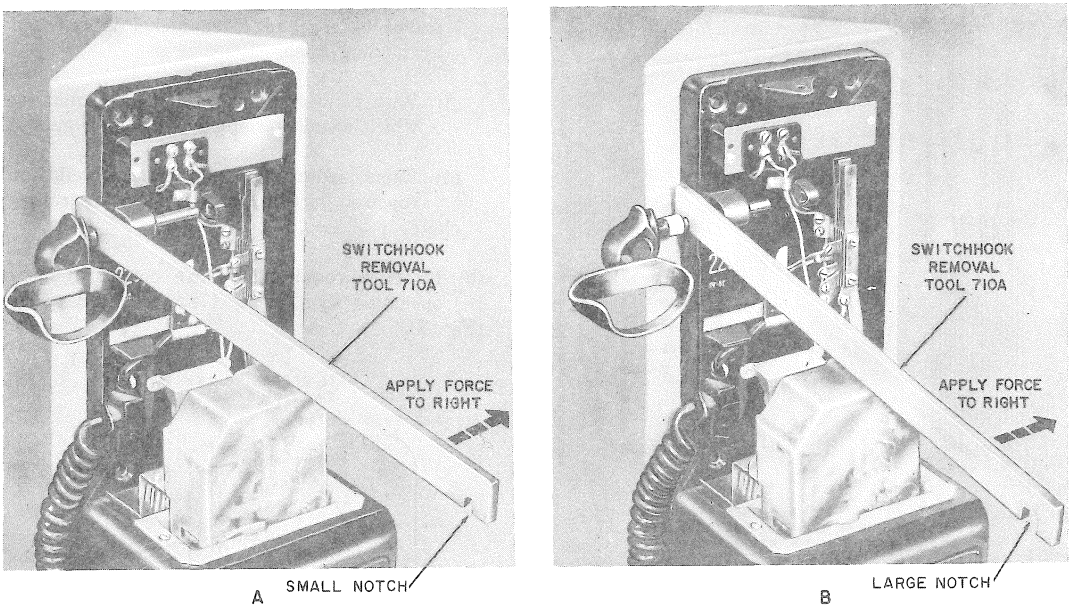


Fig. 4—Removal of Damaged Switch Hook on Corner Mounted Coin Collectors

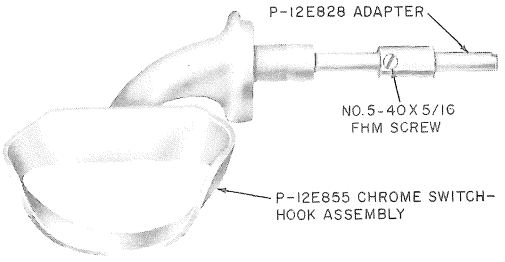


Fig. 5—2-Piece Switch Hook Assembly

- Install P-297872 spacing washers to take up excessive end play.

(c) Refer to Section 506-110-103 for installation of D-180009 switch hook conversion kit which may be used to reduce switch hook blocking.

(d) Test operation of switch hook. See 5.08.

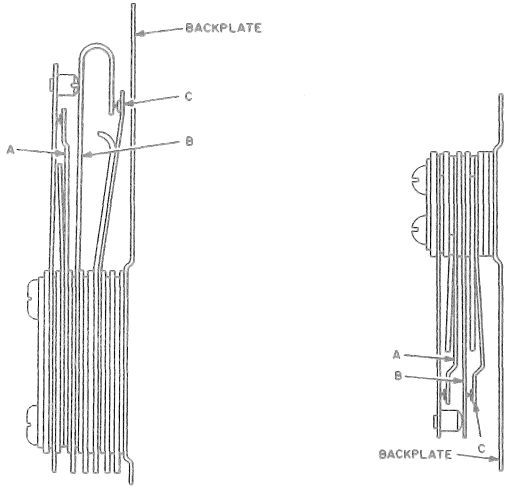
5.10 *Switch Hook Contact Springs*

(a) Contacts shall make and break in sequence as shown in applicable connection sections.

- Use 265C tool to burnish contacts.

(b) Adjust contact follow and separation as follows:

- All contacts shall have perceptible follow (approximately 1/64-inch).
- Contact pairs of twin contacts shall make at approximately the same time.
- Minimum separation between mating point-disc type and bar type contacts shall be 0.025 and 0.016 inch, respectively.
- Clearance between noncontacting springs and between spring and backplate is shown in Fig. 6.



NOTE:
MIN. 1/32 IN. CLEARANCE BETWEEN SPRINGS A AND B, AND BETWEEN SPRING C AND BACKPLATE. JUDGE VISUALLY.

Fig. 6—Spring Clearance

(c) Spring pile-up shall be tight and contacts shall be aligned so that contact point falls within circumference of opposing contact disc, or a contact bar falls within length of opposing contact bar.

- If switch hook spring pile-up is loose on earlier model coin collectors (having terminals on a wooden block), tighten spring pile-up; if contacts do not line up, loosen spring pile-up, realign contacts and retighten.

- On coin collectors having terminals in the spring pile-up, replace coin collectors if spring pile-up is loose or contacts do not line up.

5.11 *Gate Operating Arm Adjustment*

(a) With upper housing in place and handset off-hook check as follows:

(1) Deposit a single nickel which should be stopped by holding latch.

(2) Lower switch hook slowly to release nickel.

- There should be perceptible switch hook travel before and after nickel is released by holding latch.

(3) With handset on-hook, deposit a quarter, which should be stopped by open gate.

(4) Raise switch hook; quarter should be released, strike gong, and enter return chute.

(b) If above requirements are not met, check operating arm using 178A or 178B gauge (Fig. 7).

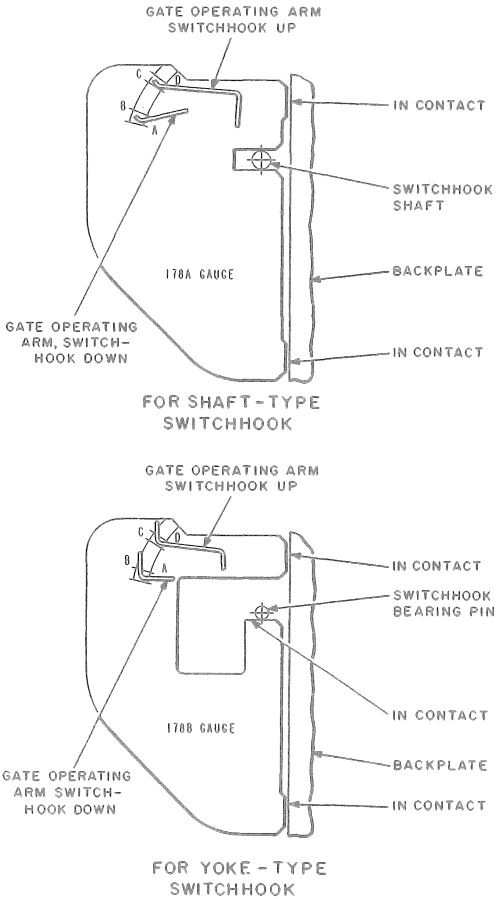


Fig. 7—Use of 178 Type Gauge

- With switch hook in down position, bottom surface of curved end of arm shall be between the two arcs and lines A and B.

- With switch hook in up position, bottom surface of curved end of arm shall be between the two arcs and lines C and D.

(c) To adjust position of gate operating arm:

- Bend lugs on each side of support bracket with 466A tool.

- On early type, adjust spring arm only.

(d) Replace switch hook if requirements cannot be met by adjustment.

5.12 *Coin Relay and Hopper Tests*

Note: No modification or adjustment of coin relay or hopper other than those specified herein shall be made.

Ground Contact Springs

(a) Remove P-10E783 dust cover from coin relay.

(b) Connect hand test set across line terminals and trip coin trigger Fig. 8. Dial tone should be heard. If not:

(1) Verify presence of central office battery and station ground.

(2) If contacts make firmly, but test open, burnish with 265C tool.

(3) If dial tone is still not heard, replace relay.

(c) Lubricate surface between trigger and contact spring with 2B or softer lead pencil (Fig. 9).

(d) An open resistor will result in no coin pilot light at switchboard. Verify as follows:

(1) Connect hand test set across line terminals with coin trigger not tripped.

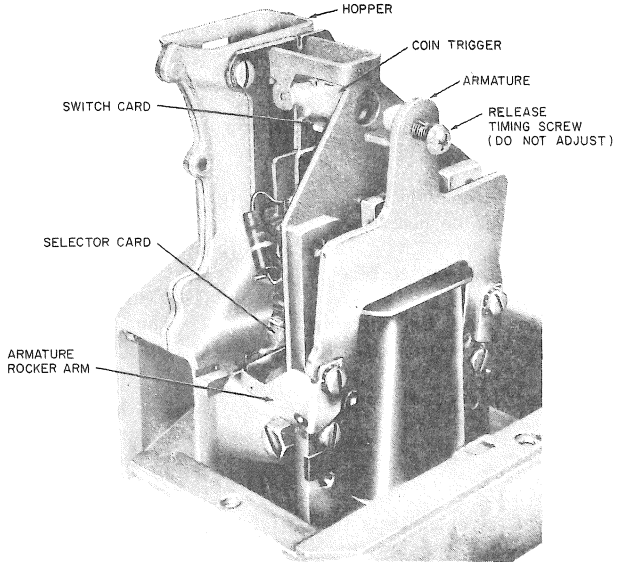


Fig. 8—P-10E683 Mechanism Unit with P-13E961 Coin Relay

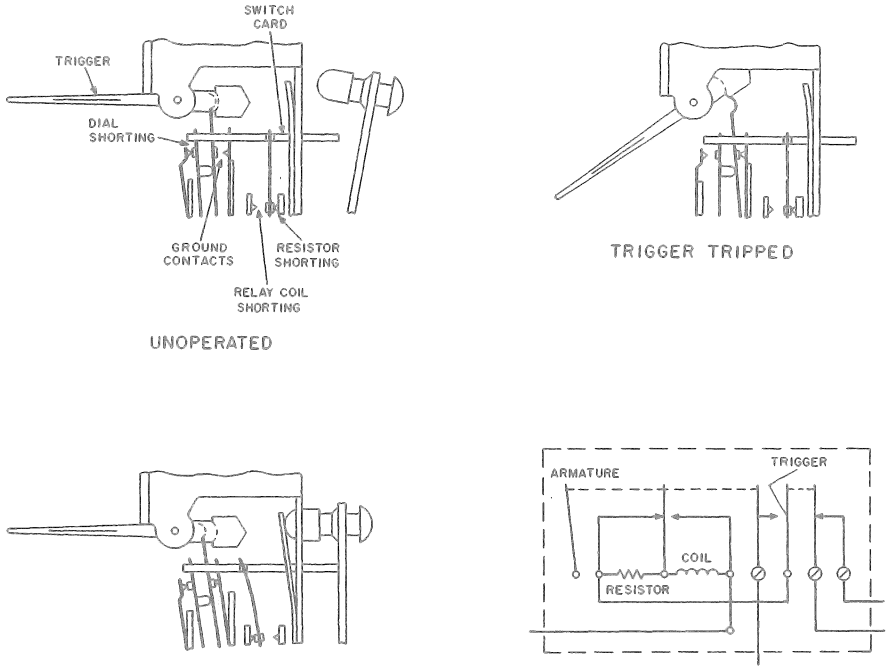


Fig. 9—Contact Spring Assembly

(2) Close relay armature to its full extent of travel. Dial tone should be heard.

(3) If dial tone is not heard, replace relay.

Caution: Tilt selector card by pressing downward on one of the ears before manually operating the coin relay. This avoids jamming selector card and cam engaging surfaces.

Dial Shorting Springs

(e) With coin trigger unoperated, contacts shall be made and have perceptible follow.

(f) With coin trigger tripped, contacts should be open.

(g) Contacts shall shunt dial pulsing contacts when coin trigger is unoperated. Check as follows:

(1) Provide ground on line by inserting paper clip or equivalent between ground terminal and spring pile-up of NO. 4 spring (Fig. 10).

Note: Make sure paper clip does not make with the spring contact portion of No. 4 spring. Avoid making contact with No. 3 terminal.

(2) Place upper housing on coin collector and listen for dial tone.

(3) When dial tone is heard, dial any digit except 1. Dial tone should not be broken.

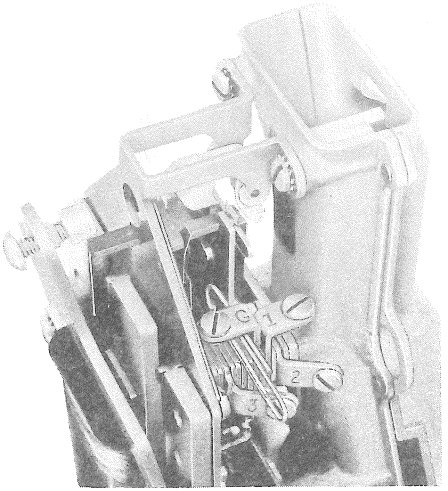


Fig. 10—Method of Strapping Ground Around Ground Contacts on Relay

(4) Remove upper housing.

(5) Remove paper clip.

(6) If dial tone is broken, burnish contacts with 265C tool, check housing transfer spring contacts, and wiring for continuity, and repeat test.

(h) Replace dust cover.

5.13 *Trap and Vane Release Test*

Note: Disconnect ground from coin relay while making this test at manual stations.

(a) Test as follows:

(1) Manually close coin relay armature to its full extent of travel.

(2) Insert KS-14995 tool into hopper to operate trap to the limit of its travel (Fig. 11).

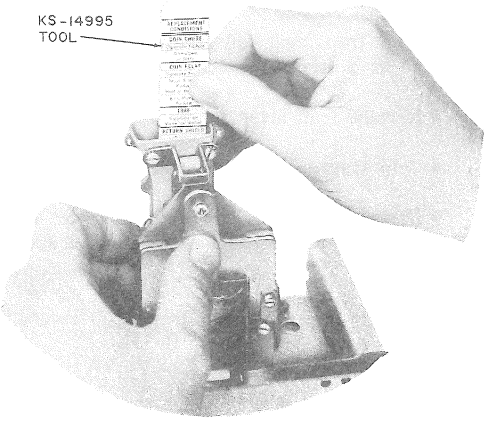


Fig. 11—Trap and Vane Release Test

(3) Slowly withdraw tool.

(4) Armature, trap, and vane should return to nonoperated position and trap should be locked.

(5) Make test three times in both collect and refund positions, pressing left side of selector card ear for collect and right side for refund.

(6) If mechanism fails to restore properly, check mounting for binding.

(b) If mechanism still fails, remove coin relay from hopper as covered in 5.15 (a) and proceed as follows:

(1) Check vane for binding:

- Hold vane tilted slightly to the right.
- Vane shall drop to right when released.
- Hold vane tilted slightly to the left.
- Vane shall drop to left when released.
- If vane binds, replace coin collector.

(2) Check operating, restoring, and locking of coin trap.

- Depress trap-lever tab slowly with finger.
- Coin trap shall fall freely and come to a positive stop.
- Release trap lever slowly.
- Coin trap shall restore and lock.
- If trap-lever spring is missing or lacks sufficient tension, replace or retension spring. See 5.16 (c).
- Replace defective coin trap, trap lever, or pin as required. See 5.16 (d).

(c) Remount relay and repeat test.

- If mechanism fails, replace relay.
- If mechanism still fails, replace coin collector.

5.14 *Bias Margin Test*

Note: Make this test when coin relay is suspected of failing to operate or of operating in the wrong direction.

(a) Coin relay shall operate in the selected direction (collect or refund) when appropriate central office battery is applied.

(b) Test as follows:

(1) Call test desk and request a bias margin test of the coin relay (use central office test circuit where available).

(2) Slip 146B bias margin gauge (Fig. 12) over left pole piece extension arm from left side of coin relay (Fig. 13).

Fig. 12—146B Bias Margin Gauge

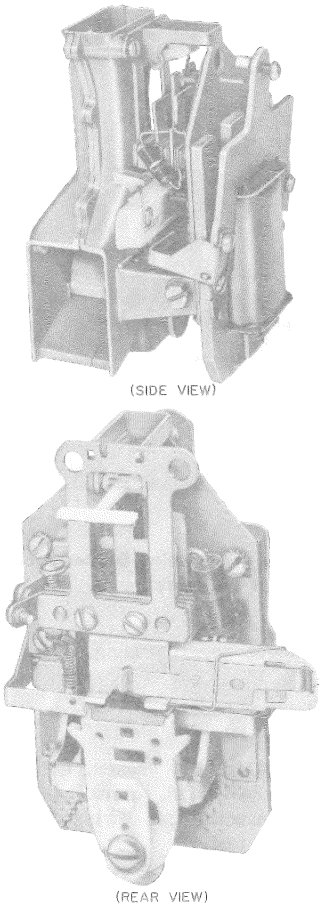


Fig. 13—146B Bias Margin Gauge in Position for Collect Test

(3) Request test desk to perform operation (collect or refund) appearing in lower left corner of gauge.

(4) After checking for the correct relay operation, reverse gauge by turning it around on the same pole piece extension arm and request operation appearing in the lower left corner of gauge.

(5) Check for correct relay operation. Replace relay if either test fails.

Note: Make certain coin relay dust cover is in place before replacing upper housing.

5.15 *Replacing Coin Relay*

(a) To remove coin relay from hopper:

(1) Remove wiring and four mounting screws.

(2) Slide relay forward to clear trap and vane and lift upward.

(b) To replace relay on hopper:

(1) Move vane to left.

(2) With trigger tripped, place relay on hopper.

(3) Slide relay back until trigger enters opening in hopper and trap-lever tab enters slot in selector card (Fig. 14).

(4) Close armature manually by pressing downward on ear on left side of selector card.

(5) Slide relay back, vane stem should enter hole in cam and mounting screw holes should line up.

(6) Replace mounting screws.

(7) Trigger should have some end play and armature, trap, and vane should operate and release without binding.

(8) If trigger binds, loosen upper mounting screws.

(9) If trigger is free with upper mounting screws loose, retighten screws evenly.

(10) Replace relay if trigger still binds.

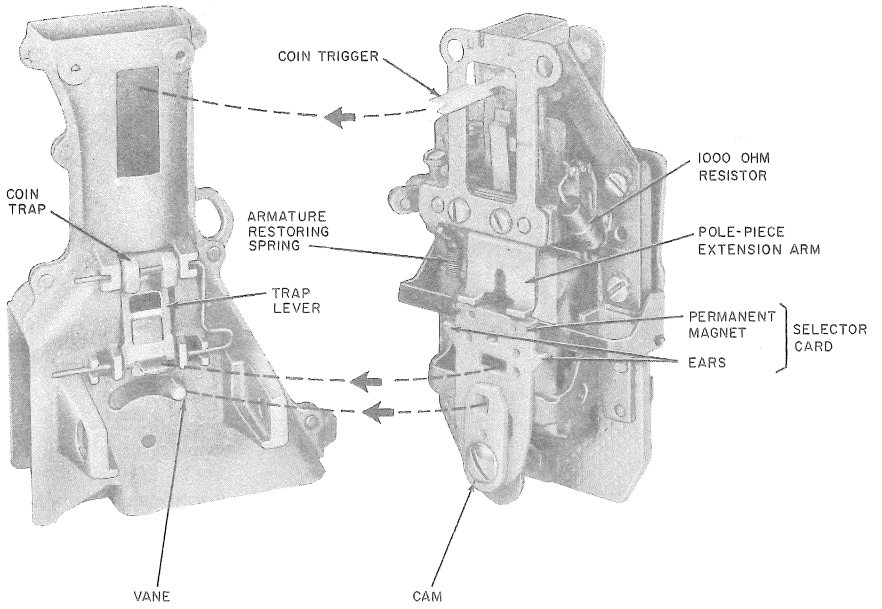


Fig. 14—Coin Hopper and Rear View of P-10E786 Coin Relay

5.16 *Replacing Coin Trap and Associated Parts*

(a) Make certain new P-10E702 trap-lever spring is used (Fig. 15).

(b) To remove trap-lever and coin trap:

(1) Remove coin relay from hopper. See 5.15 (a).

(2) Move vane to right.

(3) Remove trap pin by sliding vertical portion over boss on front of hopper.

(4) Turn coin trap sideways and remove through opening.

(c) To replace trap-lever spring.

(1) Place trap-lever and spring on a flat surface (Fig. 16).

(2) Use a KS-6320 orange stick to bend trap-lever spring around center bar of trap-lever (Fig. 16 and 17).

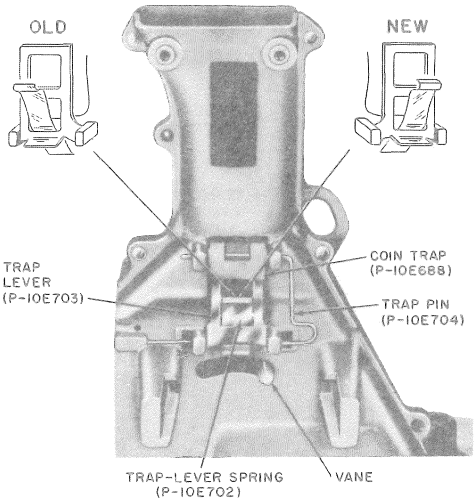


Fig. 15—Trap-Lever Spring and Trap-Lever Assembled

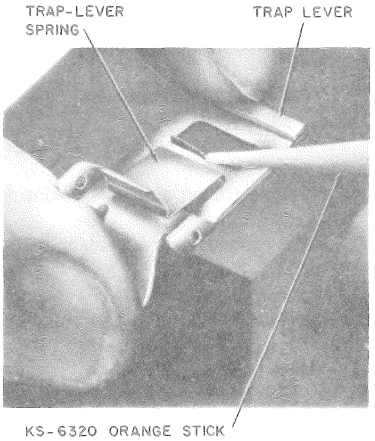


Fig. 16—Bending Trap-Lever Spring

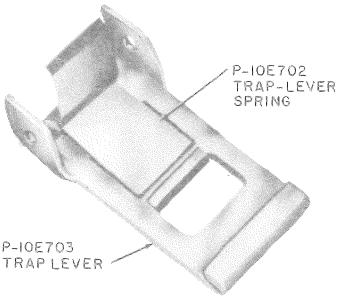


Fig. 17—Trap-Lever Spring Assembled on Trap-Lever

(d) To replace coin trap and trap-lever:

(1) Partially insert trap pin into hole in hopper.

(2) Place trap-lever on trap pin (Fig. 18).

(3) Insert coin trap in hopper and engage pin in trap (Fig. 19).

Caution: Be sure that trap-lever spring is between trap pin and hopper (Fig. 20).

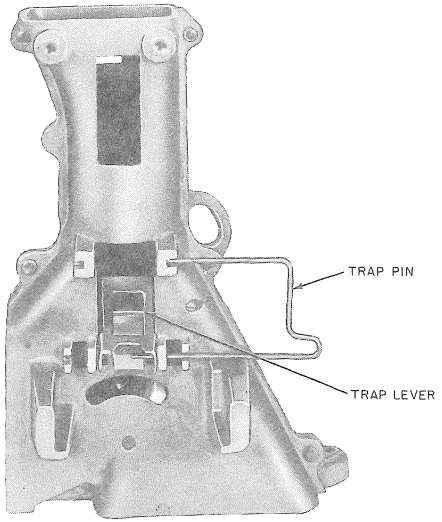


Fig. 18—Placing Trap-Lever Pin on Hopper

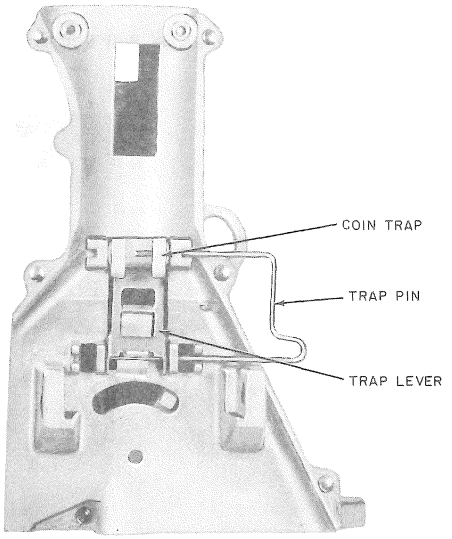


Fig. 19—Placing Coin Trap on Hopper

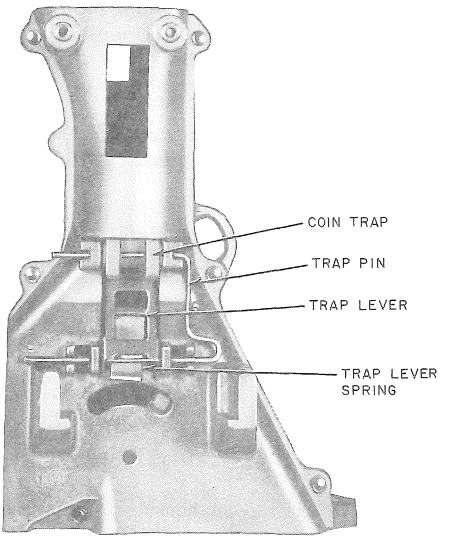


Fig. 20—Trap-Lever Spring under Trap Pin

(4) Push trap pin into position.

(5) Check operation. See 5.13 (a).

(e) Replace relay on hopper. See 5.15 (b).

5.17 *Grounding Coin Collector Housing*

(a) Check that grounding clip, (Tinnerman C-29313-012-445 or C-3412-020-38) is in place on upper housing.

(b) Backplate assembly should be grounded as covered in Section 506-110-200.

Existing installations located in indoor booths which are not equipped with the No. 14 insulated ground wire assembly shall be grounded in the same manner as open-type installations.

5.18 *Pull Buckets*

Damaged pull buckets, broken or weak springs and defective shafts may be replaced in the field.

Cash compartment must be unlocked and coin receptacle removed to allow access to split end of pull bucket shaft.

Cash compartment need not be opened when replacing a plastic pull bucket. See (e).

Removal and Installation of Metal Pull Bucket

(a) To remove:

(1) Use diagonal pliers to pry up tabs on split end of pull bucket retaining shaft (Fig. 21).

(2) Compress tabs with pliers to line up with shaft.

(3) Drive shaft from housing using hammer and drive punch.

(4) Swing pull bucket to open position and pull forward until ends of springs are exposed.

(5) Use TP-75503 spring hook to disconnect springs from coin chute crossbar.

(6) Disconnect springs from pull bucket crossbar.

(b) To install:

(1) Use TP-75503 spring hook to assemble two new springs on pull bucket crossbar (Fig. 22).

(2) Hold pull bucket with coin recess upward, supporting springs with fingers so springs extend slightly into chute opening (Fig. 23).

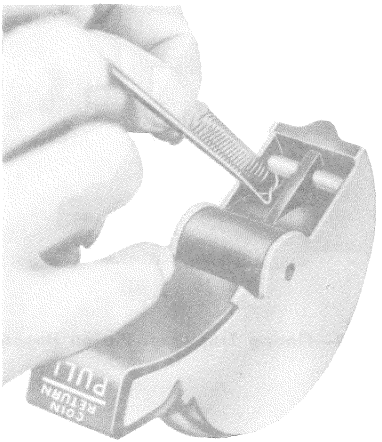


Fig. 22—Attaching Springs to Pull Bucket

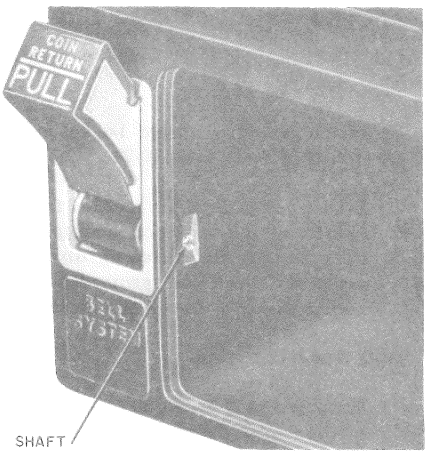


Fig. 21—Pull Bucket Retaining Shaft

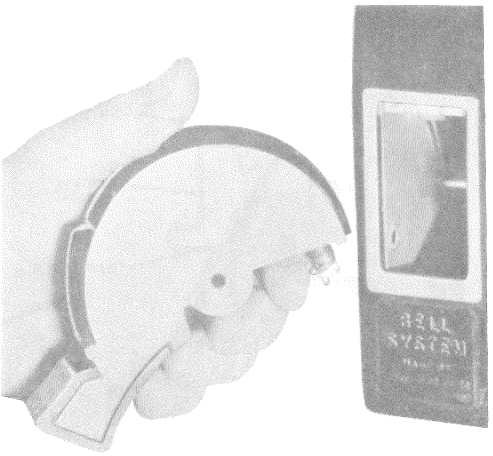


Fig. 23—Inserting Pull Bucket in Return Chute

(3) Use TP-75503 spring hook to engage springs on crossbar in coin chute (Fig. 24).

(4) Insert and hold pull bucket in normal position.

(5) Use orange stick or equivalent to line up holes in pull bucket and housing.

(6) Insert P-27E462 stainless steel shaft in housing and force fit using hammer and drive punch (Fig. 25).

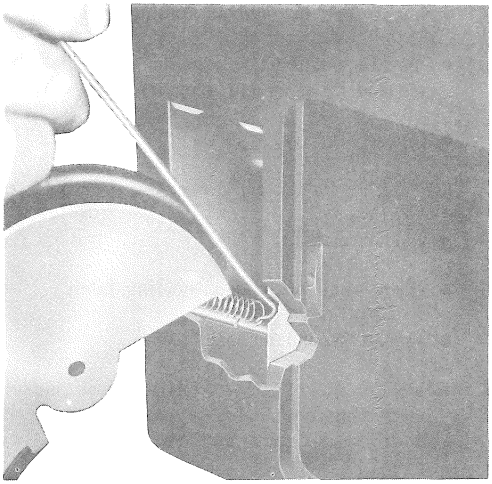


Fig. 24—Attaching Springs in Return Chute

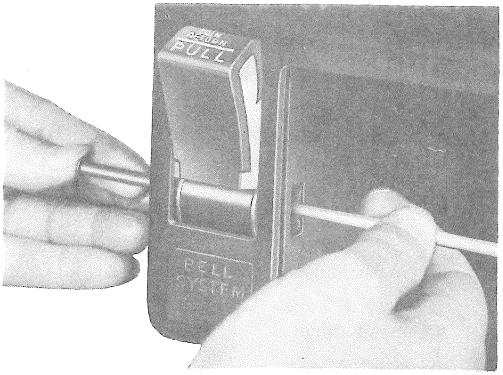


Fig. 25—Inserting Shaft in Housing

(c) If pull bucket fails to operate properly, replace coin collector.

Removal of Plastic Pull Bucket

(d) Replace damaged or inoperative plastic pull buckets with metal pull buckets.

(e) To facilitate replacement of pull bucket without removing coin receptacle, proceed as follows:

(1) Use hammer and cold chisel to break away lower part of plastic pull bucket which encloses the shaft.

Caution: Exercise care when breaking the plastic to prevent damaging any portion of the lower housing.

(2) Grip shaft with a pair of diagonal pliers and apply pressure horizontally to the left to remove shaft from the housing.

(f) Install new pull bucket as outlined in (b).

6. FINAL TESTS

6.01 *Vertical Play*

(a) Vertical play of upper housing should not exceed 1/32-inch.

(b) If vertical play is in excess of 1/32-inch, one or two P-12A745 spacer plates may be added as required.

- Spacer plate is 0.032 inch thick, with a turned edge, which gives it an effective thickness of 0.055 inch if positioned upward.

- Spacer plates may be used with turned edge up or down depending on the thickness required.

(c) Spacer plates are mounted on top of upper housing and secured by the two rear cardholder mounting screws.

- Cardholder, if present, is positioned on top of spacer plates.

6.02 *Noise or Cutout*

(a) With upper housing locked in place and talking battery on line, there shall be no noise or cutouts in the talking circuit resulting from moving the upper housing up and down from side to side, and forward and backward.

(b) If talking circuit is noisy or cutouts occur, proceed as follows:

- Clean housing contact springs.
- Use a 466A tool to adjust housing contact and equalizing springs to have approximately 1/4-inch follow (Fig. 26).

(c) If noise or cutout is caused by shaking cord or handset, replace handset.

6.03 *Coin Chute Operation and Refund Test*

(a) Ensure that coin chute and coin return paths are clear and station relay (if applicable) and coin relay are operating satisfactorily.

(b) Make final test as follows:

(1) With upper housing locked in place and handset ***off-hook***

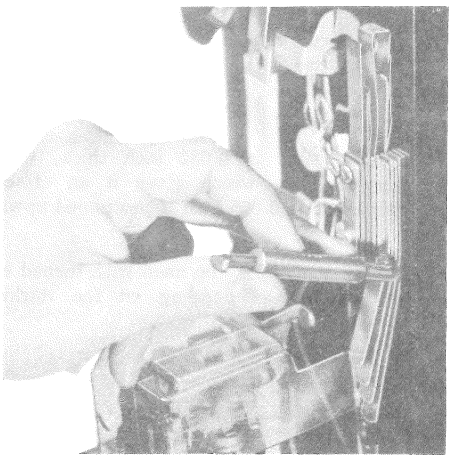


Fig. 26—Adjustment of Housing Contact Springs

- Deposit nickel.
- Nickel shall be held at holding latch.
- Lower switch hook ***slowly;*** coin shall drop into coin return.
- Repeat test five times.

(2) To test washer-reject and coin release mechanism with handset ***off-hook***

- Deposit nickel.
- Nickel shall be held at holding latch.
- Operate pushbutton ***slowly;*** coin shall be released by gate and drop into coin return.
- Repeat test five times.

(3) With handset ***off-hook:***

- Deposit nickel.
- Nickel shall be held at holding latch.
- Deposit second nickel.
- Second nickel shall release first nickel, permitting both coins to pass through coin chute, strike gong, and trip trigger as they drop into hopper.
- Dial tone should be heard.
- Deposit a third nickel which should pass through coin chute and reach trap in hopper.

(4) At dial stations when dial tone is heard:

- Dial any digit except 1 to break dial tone, then hang up handset.
- Coins should drop into coin return.

(5) With handset ***on-hook:***

- Deposit dime.
- Dime shall pass through coin chute, strike gong twice and trip trigger.

- Dial tone should be heard on removing handset from switch hook.

(6) With handset *off-hook:*

- Deposit dime.
- Dime shall pass through coin chute, strike gong twice, and trip trigger.
- Dial tone should be heard.

(7) With handset *on-hook:*

- Deposit quarter.
- Quarter shall be stopped by the open gate.
- Remove handset from switch hook.
- Gate will close, releasing quarter to strike gong and trip trigger.
- Dial tone should be heard.

(8) With handset *off-hook:*

- Deposit quarter.
- Quarter shall pass through coin chute, strike gong and trip trigger.
- Dial tone should be heard.

6.04 *Coin Signal Test*

(a) Notify operator that tests for coin signals are to be made and coins should be returned after deposit.

(b) Deposit nickel, dime, and quarter.

- If operator does not identify signals correctly, inspect station for trouble.
- Correct as specified under coin chute alignment in 4.05.

COIN COLLECTORS
PREPAY—MAINTENANCE
TWO-COIL COIN RELAY

1. GENERAL

1.01 This section covers specific items of maintenance required for prepay coin collectors arranged for 10-cent operation. These items cover the two-coil coin relay and coin hopper (see Fig. 1 and 2). In addition, see section on general maintenance of coin collectors.

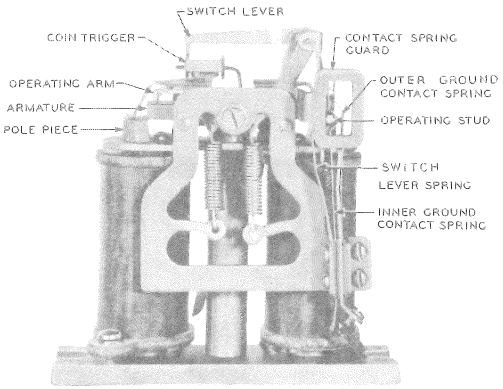


Fig. 1—P-145749 Coin Relay

1.02 This section is reissued to show that the KS-7994 and P-349386 coin relay shields are rated Manufacture Discontinued (MD). Use the P-16A336 coin relay shield for all replacements.

2. PRECAUTIONS

Caution 1: Remove handset from switchhook before removing or reassembling upper housing of a coin collector equipped for 10-cent operation. This reduces possibility of damage to the gate operating arm.

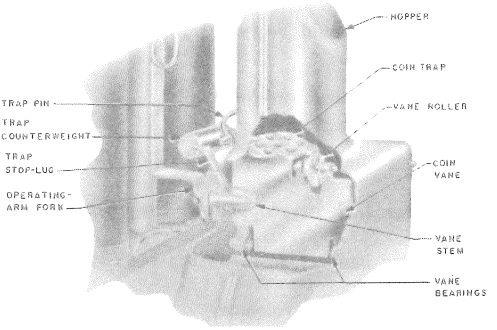


Fig. 2—Hopper & Rear of Coin Relay

Caution 2: Do not reassemble upper housing on prepay coin collectors without a P-349486 (MD), KS-7994 (MD), or P-16A336 shield over relay.

3. TOOLS AND GAUGES

3.01 The following tool and gauges are needed in addition to those required for general maintenance:

- 146A Gauge—Bias margin test
- 147A Gauge—Trap and vane release test and ground contact-spring force test
- KS-14995—Coin collector tool for trap and vane release test

4. COIN RELAY AND COIN HOPPER TESTS

4.01 Do not make any adjustment or modification of coin relay or hopper other than those

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specified below. With coin relay shield removed, make the following tests:

Ground contact springs	4.02, 4.03
Dial shorting contact springs	4.04, 4.05
Trap and vane release test	4.06, 4.07
Bias margin test	4.08, 4.09
Cleaning coin relay	4.10
Replacing coin relay	4.11, 4.12, 4.13
Replacing coin trap	4.14, 4.15, 4.16
Replacing coin shield	4.17

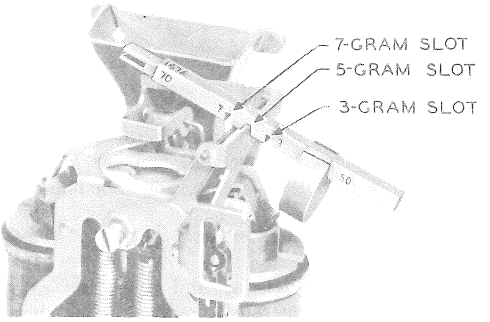

Fig. 3—Gauge For Ground Contact Spring Force

Ground Contact Springs, P-145749 and D-96590 Relays

4.02 Check ground contact spring force for the P-145749 (2-spring) relay and D-96590 (3-spring) relay as follows:

(1) With ground lead connected to coin collector, place required gram slot of 147A gauge on horizontal portion of switch lever.

(2) Connect hand test set across line terminals of coin collector, and trip coin trigger. Dial tone will be heard in dial areas, or operator will answer in manual areas. If not, proceed as follows:

(3) Ground contact-spring force for P-145749 (2-spring) relays should be a minimum 5 grams measured with the 147A gauge as shown in Fig. 3.

(4) Ground contact-spring force for D-96590 (3-spring) relays should be minimum 3 grams measured with 147A gauge 3-gram slot as shown in Fig. 3. Contact requirements are as follows:

(a) If contacts are open, force is less than minimum required. Replace relay.

(b) If contacts touch but test open, burnish contacts with 265C tool.

(c) If dial tone is not heard after burnishing contacts, short-circuit ground contact springs.

(d) If dial tone is heard when contact springs are shorted, replace relay.

(e) If dial tone is not heard when contact springs are shorted, test for open relay coil or trouble in station ground or line circuit.

Ground Contact Springs, P-10C117 Relay

4.03 Check ground contact-spring force for the P-10C117 (4-spring) relay as follows:

(1) Ground contacts shall have perceptible follow. Observe while raising switch lever slowly by hand from its tripped position.

Note: Do not use 147A gauge for checking ground contact-spring force on this relay.

(2) Connect hand test set across line terminals of coin collector, and trip coin trigger. Dial tone will be heard in dial areas, or operator will answer in manual areas. If not, proceed as follows:

(a) If contacts have perceptible follow but test open, burnish contacts with 265C tool.

(b) After burnishing contacts, if dial tone is not heard, short-circuit ground contact springs.

(c) If dial tone is heard when contact springs are shorted, replace relay.

(d) If dial tone is not heard when contact springs are shorted, test for open relay coil or trouble in station ground or line circuit.

Dial Shorting Contact Springs

4.04 With coin trigger and operating arm in normal unoperated positions, dial shorting contact springs should have perceptible follow. With coin trigger tripped, they should be open; judge visually. (See Fig. 4 and 5.)

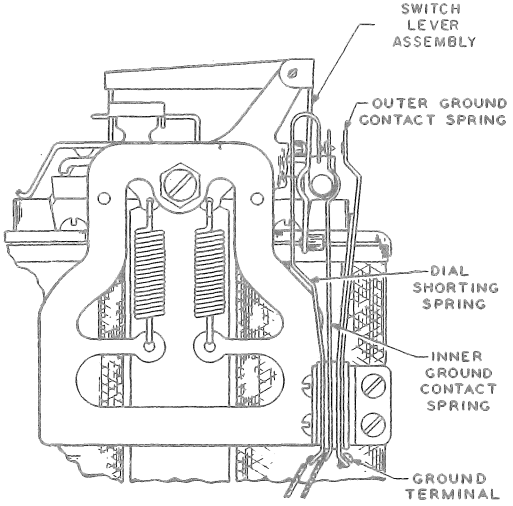

Fig. 4—D-96590 Dial Shorting Relay, 3-Spring (Guard Cut Away)

4.05 Dial shorting contacts should shunt dial pulsing contacts when coin trigger is in normal position. With ground lead connected, check as follows:

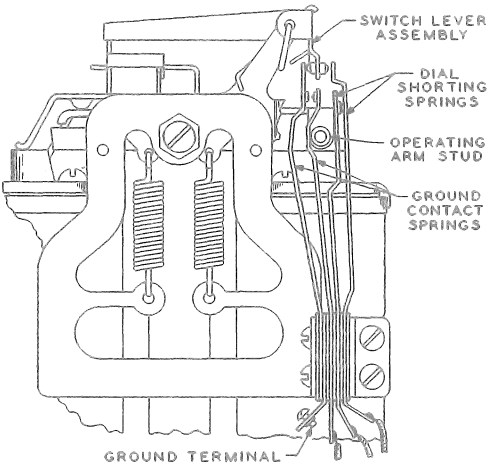

Fig. 5—P-10C117 Dial Shorting Relay, 4-Spring (Guard Cut Away)

(1) Provide ground on line by strapping around ground contact springs:

- On D-96590 (3-spring) relays, strap ground terminal to **tip** side of line.
- On P-10C117 (4-spring) relays, strap ground terminal to **right** coil terminal.

(2) Make sure that coin trigger is **not** tripped.

(3) Place upper housing on coin collector and wait for dial tone.

(4) When dial tone is heard, dial any digit except 1. Dial tone should not be broken.

(5) If dial tone is not broken, **remove strap** and proceed with remaining tests.

(6) If dial tone is broken, dial shorting contacts are not shunting dial. Clean contacts and

recheck follow of dial shorting springs. Check wiring and transfer spring contacts for continuity.

Trap and Vane Release Test

Note: At manual stations, disconnect ground from coin relay while making this test.

4.06 Trap, vane, and relay should restore fully to their unoperated positions against a torque of 70 gram-inches applied to relay operating arm with a 147A gauge (see Fig. 6 and 7). Test as follows:

(1) Remove shield from relay.

(2) Apply slot 70 of 147A gauge to right rear horizontal portion of relay operating arm. Make sure that enclosed end of slot is against edge of operating arm and that weight on gauge is positioned up, as shown in Fig. 7.

(3) Press down on 147A gauge to operate relay and vane to limits of their travel.

(4) Insert KS-14995 coin collector tool into throat of hopper to operate trap to the limit of its travel. Hold in place as shown in Fig. 7.

(5) Release pressure on 147A gauge.

(6) Slowly withdraw KS-14995 tool. Take at least 5 seconds.

(7) Be sure that vane and relay return to their unoperated positions.

(8) Make test three times with gauge on right (collect) side and three times on left (refund) side.

4.07 If the mechanism fails, remove relay and proceed as follows:

(1) If hopper is equipped with a brass coin vane, replace coin collector.

(2) Check vane for binding on its bearings as follows:

(a) Hold vane almost vertical but slightly to the right.

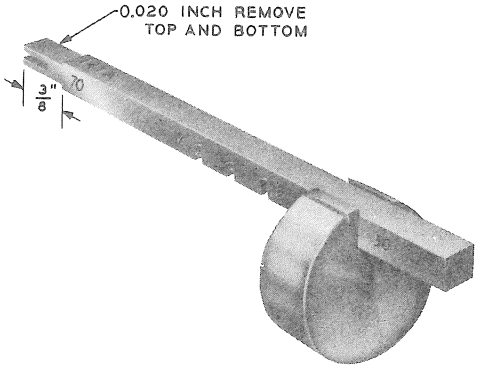

Fig. 6—147A Gauge

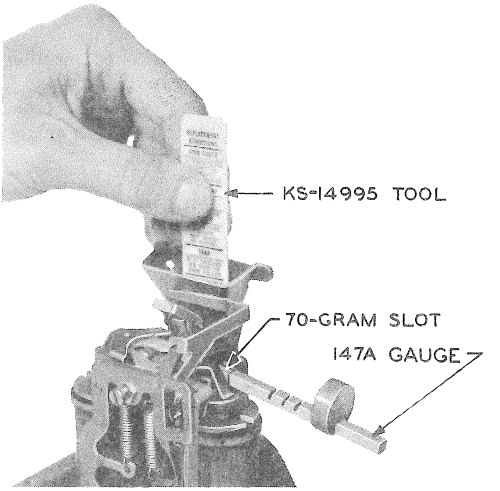

Fig. 7—Trap and Vane Release Test

(b) Vane should drop to fully operated refund position (right) when released.

(c) Hold vane almost vertical but slightly to left.

(d) Vane should drop to fully operated collect position (left) when released.

(e) If vane binds on its bearings, replace coin collector.

(3) Check vane for binding on hopper as follows:

(a) Holding vane stem as far forward as possible, move vane over its full travel in each direction three times. Make sure that it does not scrape on front of hopper.

(b) Push vane to rear of hopper and move vane over its full travel in each direction. Make sure that it does not scrape on back of hopper. Do not push hard enough to distort hopper.

(c) If vane binds on hopper, replace coin collector.

(4) Check trap for catching on vane or on vane roller as follows:

(a) Hold vane in fully operated collect position (to the left) using left hand.

(b) With the right hand, lift trap counterweight to its fully operated position.

(c) Move vane slowly until it engages trap.

(d) Continue moving vane toward vertical position while gently restraining trap. Vane should move smoothly to vertical position.

(e) Repeat test on refund side (to the right), reversing use of hands. If trap catches on vane or vane roller, replace trap as covered in 4.14 through 4.16 and repeat test. If replacement trap still catches, replace coin collector.

(5) Check clearance between trap and vane roller as follows:

(a) With trap in unoperated position, place a finger lightly on counterweight.

(b) Move vane to vertical position. If vane rubs on trap, adjust trap stop lug so that trap will just clear vane (Fig. 2).

(c) With vane in vertical position, lift trap counterweight. Trap should not move more than a few degrees before touching vane roller. Adjust by bending stop lug. (See Fig. 2.)

(6) Check operating arm fork and vane stem for roughness. Clean and lubricate as covered in 4.10. Also check operating stud. If stud is rough or roller type, replace relay.

(7) Remount coin relay as covered in 4.11 and repeat trap and vane release test. If mechanism fails, replace relay.

Note: Make bias margin test only if relay fails to operate or operates in wrong direction.

4.08 Relay should operate against torque of a 146A gauge attached to armature in both collect and refund directions when appropriate central office coin battery is applied. Test as follows:

(1) To test in collect direction, place a 146A gauge on left side of armature (see Fig. 8).

(2) Connect hand test set across line terminals.

(3) Trip coin trigger (see 4.09).

(4) Obtain collect current by any available local arrangement. Relay should operate to collect (lifting gauge) and trigger should restore. Make test three times (see 4.09).

(5) To test in refund direction, place 146A gauge on right side of armature.

(6) Trip coin trigger.

(7) Obtain refund current. Relay should operate to refund (lifting gauge) and trigger should restore. Make test three times.

(8) If relay fails to operate in the correct direction or if trigger fails to restore, check for and remove magnetic particles or replace relay.

Note: Make sure that line and ground are satisfactory and that coin battery is being applied.

4.09 When coin trigger is tripped, ground contact springs should close and remain closed without break while armature is moved from its

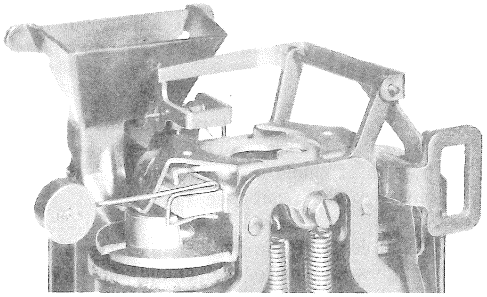

Fig. 8—Bias Margin Test

normal to its fully operated position. It is immaterial at what point on return stroke contacts open.

Cleaning Coin Relay

4.10 If relay has been removed for any reason, proceed as follows:

(1) Clean and lubricate fork and vane stem as follows:

(a) Surfaces of fork slot should be smooth. If bearing surfaces of fork are so rough that they cannot readily be made smooth, replace relay. Otherwise, smooth rough spots using No. 320 or finer abrasive cloth folded as shown in Fig. 9.

(b) Clean with a KS-2423 cleaning cloth moistened with KS-7860 petroleum spirits.

(c) Apply graphite from grade 2B or softer lead pencil to bearing surfaces of fork slot. Rub lead on these surfaces to deposit as continuous a coating as possible.

(2) Remove magnetic particles from adjacent surfaces of armature, pole pieces, and top of magnet with rubber tape or equivalent. To remove particles:

(a) Place a piece of rubber tape about 1 inch long on top of pole piece on left side of relay with at least 1/4 inch extending into airgap under armature. Press down on armature until it squeezes rubber tape. Discard tape with embedded magnetic particles.

(b) Repeat operation on right side with a new piece of rubber tape.

(c) Use tape folded over orange stick to remove particles from top of magnet.

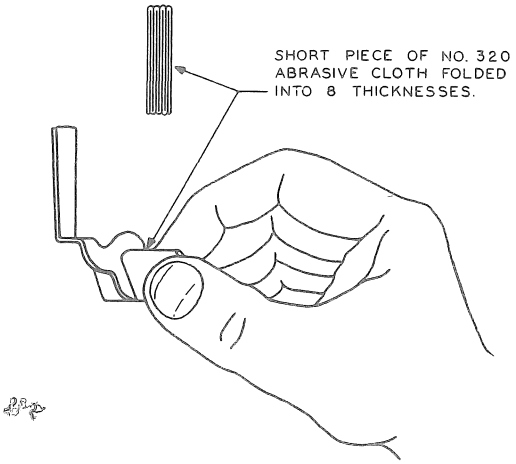

Fig. 9—Polishing of Fork Slot

Replacing Coin Relay

4.11 When mounting relay, center it so that with operating arm in its normal vertical position, fork slot engages vane stem and holds coin vane in a vertical position. Full thickness of coin vane is visible in the center hole of coin trap (Fig. 10). If relay cannot be centered, replace relay. If replacing relay cannot be centered, replace coin collector.

4.12 Coin trigger should not touch upper end of slot in hopper or bind on sides of slot at any point of travel.

4.13 Place relay as close as possible to hopper. There should be at least 1-1/16 inch clearance between fork and hopper, between vane stem and relay, and between trap counterweight and relay.

Replacing Coin Trap

4.14 Relay must be removed to replace coin trap.

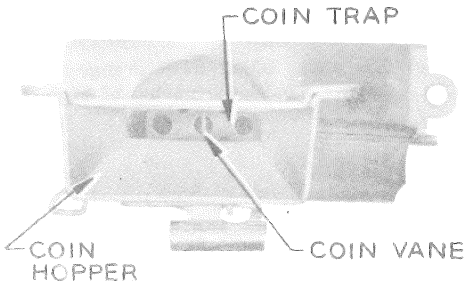

Fig. 10—Position of Vane When Relay is Centered

4.15 Coin traps in later style hoppers may be replaced through front of hopper without removing coin shield.

4.16 To replace coin trap in *earlier* style hoppers:

(1) Remove coin return shield, if present by inserting blade of a cabinet screwdriver in loop of pin. Twist screwdriver sufficiently to release end of pin from hole in hopper. Slowly pull shield and pin out together.

(2) Move vane to the right.

(3) Fasten a piece of string or wire to trap counterweight.

(4) Remove trap pin by lifting right end of loop and sliding pin to the left.

(5) Push trap into hopper and allow it to drop into coin return.

(6) Fasten string or wire to new trap and pull trap up to slot in front of hopper.

(7) Position new trap with bearing lugs uppermost and assemble trap pin.

(8) Recheck clearance between trap and vane roller.

Replacing Coin Shield

Note: Coin shield is not required on coil collector equipped with pull bucket return chute.

4.17 If coins stick due to damaged or distorted coin shield, or if a bent shield pin causes shield to stick, remove shield pin and shield. Replace as follows:

(1) Place P-247411 pin through tubular bearing at top of P-296792 shield. Curved-in portion on bottom of shield is toward hopper when loop of pin is to the front (see Fig. 11).

(2) Hold loop of pin with long nose pliers or fingers and place coin shield pin in hole in rear of hopper.

(3) Hold shield in place with fingers and secure end of loop in front hole of hopper with long nose pliers.

(4) Adjust loop so that pin does not come out when play is taken up in either direction.

(5) Check operation of shield.

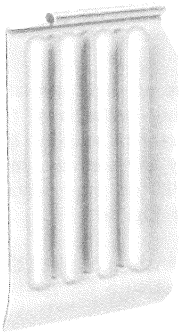

Fig. 11—P-296792 Coin Shield

5. COIN RELAY SHIELD

5.01 The coin relay must be protected by a shield. The P-16A336 shield replaces the P-349486 (MD) and KS-7994 (MD) shields and should be used for all replacements.

5.02 On coin collectors equipped with a D-95365 contact device, use P-16A336 shield. This differs from the P-349486 shield in that the lower

left corner is cut away so as not to interfere with contact device.

6. FINAL TESTS

Coin Chute Operation and Refund Test

6.01 To ensure that coin chute and coin return paths are clear and that station and coin relay are operating satisfactorily, make final test as follows:

(1) Place coin relay shield on coin relay.

(2) With upper housing locked in place and handset off-hook, deposit nickel. Nickel shall be held at holding latch. Lower switchhook slowly. Coin shall drop into coin return. Make test five times.

(3) If coin collector is equipped with washer reject and coin release mechanism, test with handset off-hook. Deposit nickel. Nickel shall be held at holding latch. Operate pushbutton slowly. Nickel shall be released by gate and drop into coin return. Make test five times.

(4) With handset off-hook, deposit nickel. Nickel shall be held at holding latch. Deposit second nickel. Second nickel shall release first nickel and permit both coins to pass through coin chute, strike gong, and trip trigger as they drop into hopper. Dial tone shall be heard at dial stations, or operator shall answer at manual stations. Deposit third nickel. Third nickel shall pass through coin chute, strike gong, and reach trap in coin hopper.

(5) At dial stations, when dial tone is heard, dial any digit except 1 to break dial tone; then hang up handset. Coins shall drop into coin return on hang-up. At manual stations, when operator answers, request that coins be returned.

(6) With handset on-hook, deposit dime. Dime shall pass through coin chute, strike gong twice, and trip trigger. Dial tone or manual operator shall be heard after handset is removed from switchhook.

(7) With handset off-hook, deposit dime. Dime shall pass through coin chute, strike gong twice, and trip trigger bringing in dial tone or manual operator.

(8) With handset on-hook, deposit quarter. Quarter shall be stopped by the open gate. Remove handset from switchhook. Gate will close and quarter will release and strike gong. Dial tone or manual operator should be heard.

(9) With handset off-hook, deposit quarter. Quarter shall pass through coin chute, strike gong, and trip trigger bringing in dial tone or manual operator.

(10) If cutover clip is used for 5-cent operation, initial nickel deposited shall not be held at holding latch. All other tests are the same as above (see Fig. 12).

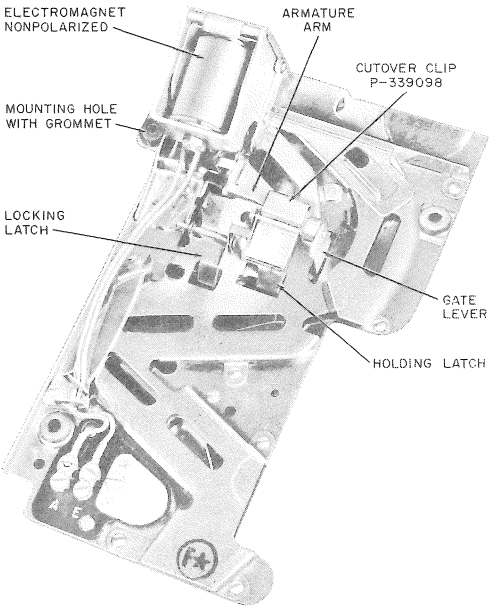

Fig. 12—Prepay Steel Coin Chute Equipped With Cutover Clip for 5-Cent Service

Coin Signal Test

6.02 Notify operator that tests for coin signals are about to be made and that coins are to be returned after deposit. Deposit nickel, dime, and quarter. If operator does not identify signals correctly, inspect for trouble at station. Correct

as specified under coin chute alignment in the section on general maintenance of coin collectors.

Extended Range

6.03 Coin collectors used with a subscriber set which extends the coin relay range should meet all above maintenance requirements. Check operation and adjustment of the *S36* relay housed in the subscriber set as covered in the section on subscriber set maintenance. If relay is defective, replace subscriber set.

COIN STATION INSTRUCTION CARDS

1. GENERAL

1.01 This section describes the appropriate instruction cards to be used at Dial and Community Dial coin collectors for .10¢ operation and also those to be used in exchanges having extended scope dialing.

1.02 This section is reissued to include additions and changes. Since this is a general revision, arrows normally used to indicate changes have been omitted.

2. FORM NUMBER AND DESCRIPTION OF INSTRUCTION CARDS FOR USE ON MULTISLOT-COIN COLLECTORS/COIN TELEPHONES

2.01 These coin collector instruction cards are designed for use in the 50K Apparatus Blank and consist of two different types.

(1) A one-piece unit consisting of a card made of vinyl plastic materials of hard finish. Therefore no protection is required. A white stock with blue printing is used. Special instructions may have a red background or printing.

(2) A one-piece unit consisting of white cardboard stock with blue printing. The standard protective covering that is furnish with the coin collector must be used.

2.02 The following instruction cards are used in smaller dial exchanges. These cards are printed on white cardboard stock. Blank space is left after the word "DIAL" and the correct code to reach Directory Assistance shall be filled in by typewriter, stamped or imprinted.

6786-CD-02 For use in locations where split tone type collection is in effect. "OPERATOR" is dialed for Long Distance, assistance emergencies and telegrams (See Exhibit #1).

6786-CD-03 For use in locations where split tone type collection is in effect and where Western Union is listed in the directory. "OPERATOR" is dialed for Long Distance, assistance and emergencies. (See Exhibit #2).

6786-CD-04 For use in locations where deposit of coin is required before receiving dial tone. "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. (See Exhibit #3).

6786-CD-05 For use in locations where deposit of coin is required before receiving dial tone and where Western Union is listed in the directory. "OPERATOR" is dialed for Long Distance, assistance and emergencies. (See Exhibit #4)

2.03 The following instruction cards are made of vinyl plastic material.

6786-LD-0 For use in locations where deposit of coin is required before receiving dial tone. "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. "411" is dialed for Directory Assistance. (See Exhibit #5)

6786-LD-01 For use in locations where deposit of coin is required before receiving dial tone and Western Union is listed in the directory. "OPERATOR" is dialed for Long Distance, assistance and emergencies. "411" is dialed for Directory Assistance. (See Exhibit #6)

6786-LD-02 For use in locations where deposit of coin is required before receiving dial tone. "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. "113" is dialed for Directory Assistance. (See Exhibit #7).

6786-LD-03 For use in locations where deposit of coin is required before receiving dial tone and where Western Union is listed in the directory. "OPERATOR" is dialed for Long Distance, assistance and emergencies. "113" is dialed for Directory Assistance. (See Exhibit #8)

6786-CD-0 For use in locations where split tone type collection is in effect. "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. "411" is dialed for Directory Assistance. (See Exhibit #9)

6786-CD-01 For use in locations where split dial tone collection is in effect and Western Union is listed in the directory. "OPERATOR" is dialed for Long Distance assistance and emergencies. "411" is dialed for Directory Assistance. (See Exhibit #10).

6786-CD-NC-0 For use in community dial offices where honor system collection is in effect and "OPERATOR" is dialed for Long Distance or for assistance. (See Exhibit #11)

6786-305 Complete dialing instructions for use in locations in the 305 Area equipped with TSPS. To be used in locations where there is not sufficient room to mount the 8B Card Holder on top of the upper housing. (See Exhibit #12)

2.04 The following instruction cards are for use only in those small outlying exchanges which surround the master operating exchange where extended scope dialing is in effect. They are not to be installed in the larger operating center exchanges which have extended scope connections to the smaller surrounding exchanges. These cards are larger (4-1/4 x 6-1/4) than the standard coin collector instruction card and are printed on white cardboard stock with blue printing. All instruction cards listed below will be used with the 8-type card holder and the protective covering that comes with the card holder is required. (See Form 6863). The blank space under "CALLS TO" shall be filled in by typewriter, stamped or imprinted to show the name of the exchange or exchanges to which calls may be made on an extended scope basis and the correct code to dial followed by the wording LISTED NUMBER should be entered under "DIAL" similar to that shown in Exhibit #13. In a similar manner the name of exchanges should be entered under "FOR NUMBERS IN" and the correct Directory Assistance codes shown under "DIAL".

6860-CD-0 For use in locations where deposit of coin is required before receiving dial tone. "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. (See Exhibit 14).

6860-CD-01 For use in locations where deposit of coin is required before receiving dial tone and where Western Union is listed in the directory. "OPERATOR" is dialed for Long Distance, assistance and emergencies. (See Exhibit 15).

6860-CD-02 For use in locations where split tone type collection is in effect. "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. (See Exhibit 16)

6860-CD-03 For use in locations where split tone type collection is in effect and where Western Union is listed in the directory. "OPERATOR" is dialed for Long Distance, assistance and emergencies. (See Exhibit 17)

2.05 The following instruction card is for use in areas equipped for TSPS and is used with the 8B Card Holder. The last three digits of the form number indicate the Area Code. Form 6863-1 or Form 6863-2 should be used along with this form to direct the customer to complete dialing instructions for dialing all calls both local and long distance.

6860-305 To be used in locations equipped with TSPS where deposit of coin is required before receiving dial tone. "OPERATOR" is dialed for assistance and emergencies. Western Union is listed in the directory. (See Exhibit #18)

2.06 The following instruction card is to be used in all exchanges where One-Way Coin Telephone Service is installed. They shall be installed in addition to the regular instruction card to notify the customer that this telephone is equipped for placing outgoing calls only. This card is larger (4-1/4 x 6-1/4) than the standard coin collection instruction card and is printed on white cardboard stuck with blue printing to be used with the 8 type card holder. The standard protective covering that is furnished with card holder must be used.

6860 For use in all exchanges where One-Way Coin Telephone Service is installed. This card reads as follows: "This Telephone Is Equipped For Placing Outgoing Calls Only. Long Distance Operator Will Not Be Able to Ring Back On Incompleted Long Distance Calls." (See Exhibit 19).

2.07 The two instruction cards to be used at locations where coinless public telephone service is installed are printed on white cardboard stock with blue printing. The standard protective covering furnished with the card holder must be used.

6016 For use in the 50K type apparatus blank. This card informs the customer that a direct line to the operator is available for placing collect calls, credit card calls and calls charged to third telephones. Paid calls cannot be made from this telephone. Please use another booth. (See Exhibit #20)

6016A For use in KS-type advertizing frames in regular coin booths adjacent to coinless public telephones. This card informs the customer that a direct line to the long distance operator (no coins required) is provided in another designated booth for placing collect calls, credit card calls and calls charged to third telephones. (See Exhibit #21).

2.07 The following forms are to be used to direct the customer to instruction cards showing complete dialing instructions. They are designed for the 50K apparatus blank (3-15/16 x 3-7/16)

6863 To be used to direct the customer to the left or right of the coin collector for complete dialing instructions. This card requests the customer to "Please Read Instructions Before Placing Call". (See Exhibits 22A and 22B)

6863-1 To be used to request the customer to "Please Read Instructions Above Before Placing Calls. (See Exhibit 23)

6863-2 For locations where One-Way Coin Telephone Service is installed and complete dialing instructions are installed in the 8B Type Card Holder mounted on top of the upper housing. (See Exhibit #24)

3. FORM NUMBER AND DESCRIPTION OF INSTRUCTION CARDS FOR THE SINGLE SLOT COIN TELEPHONE - Upper and Lower Card

3.01 The upper (2.130"x 6.140") and lower (2.843"x 6.140") instruction cards are made of water repellent vinyl chloride acetate stock with blue printing on a white background. Special instructions may have a red background or printing.

3.02 The following instruction cards are to be used in the upper card holder of the Single-Slot Coin Telephone.

2533 For use in locations where deposit of coin is required before receiving dial tone. The customer is directed to the lower card holder for instructions on special calls. (See Exhibit #25)

2533-N1 For use in locations where deposit of coin is required before receiving dial tone and where One-Way Coin Telephone Service is installed. The customer informed "This Phone Arranged For Outgoing Calls Only" and directed to the lower card holder for instructions on special calls. (See Exhibit #26)

2533-TSPS For use in areas equipped for TSPS and where deposit of coin is required before receiving dial tone. The customer is instructed to "Please Dial All Local And

Long Distance Calls" and directed to the lower card holder for complete dialing instructions. (See Exhibit #27)

3.03 The following instruction cards are to be used in the lower card holder of the Single Slot Coin Telephone.

2534-CD-0 For use only in those small outlying exchanges which surround the master operating exchange where extended scope dialing is in effect. The form is made with SEE THROUGH windows for special dialing instructions. Information for "CALLS TO" should show the name of the exchange or exchanges to which calls may be made on an extended scope basis and the correct code to dial followed by the wording LISTED NUMBER should be entered under "DIAL" similar to that shown in Exhibit #13. In a similar manner the name of exchanges should be entered under "FOR NUMBERS IN" and the correct Directory Assistance codes shown under "DIAL". This information may be typed, stamped or imprinted on white paper stock and should be installed under the appropriate see through window. "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. (See Exhibit #28)

2534-CD-01 For use only in small outlying exchanges which surround the master operating exchange where extended scope dialing is in effect. The form is made with SEE THROUGH windows for special dialing instructions. Information for "CALLS TO" should show the name of the exchange or exchanges to which calls may be made on an extended scope basis and the correct code to dial followed by the wording LISTED NUMBER should be entered under "DIAL" similar to that shown in Exhibit #13. In a similar manner, the name of the exchanges should be entered under FOR NUMBERS IN and the correct Directory Assistance codes shown under "DIAL". This information may be typed stamped or imprinted on white paper stock and should be installed under the appropriate see through window. "OPERATOR" is dialed for Long Distance, assistance and emergencies. Western Union is listed in the directory. (See Exhibit #29).

2534-CD-02 For use in locations where "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. The Directory Assistance code may be typed, stamped or imprinted on white paper stock and should be installed under the SEE THROUGH window which is provided (See Exhibit #30)

2534-CD-03 For use in locations where "OPERATOR" is dialed for Long Distance, assistance and emergencies. Western Union is listed in the directory. The Directory Assistance code may be typed, stamped or imprinted on white paper stock and should be installed under the SEE THROUGH window which is provided. (See Exhibit #31)

2534-LD-0 For use in locations where "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. "411" is dialed for Directory Assistance. (See Exhibit #32)

2534-LD-01 For use in locations where "OPERATOR" is dialed for Long Distance, assistance and emergencies. Western Union is listed in the directory. "411" is dialed for Directory Assistance. (See Exhibit #33)

2534-LD-02 For use in locations where "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. "113" is dialed for Directory Assistance. (See Exhibit #34)

2534-LD-03 For use in locations where "OPERATOR" is dialed for Long Distance, assistance and emergencies. Western Union is listed in the directory. "113" is dialed for Directory Assistance. (See Exhibit #35)

2534-305 For use in areas equipped for TSPS. Includes instruction for placing station, credit card, collect, person-to-person and directory assistance calls in the 305 Area. (See Exhibit #36)

4. FORM NUMBER AND DESCRIPTION OF INSTRUCTION CARDS FOR THE PANEL COIN TELEPHONE

4.01 The following instruction cards for the Panel Coin Telephone are made of a water repellent vinyl chloride acetate stock with blue printing on a white background. Special instructions may have a red background or printing.

2589-CD-04 For use only in those small outlying exchanges which surround the master operating exchange where extended scope dialing is in effect. The form is made with SEE THROUGH windows for special dialing instructions. Information for "CALLS TO" should show the name of the exchange or exchanges to which calls may be made on an extended scope basis and the correct code to dial followed by the wording LISTED NUMBER should be entered under "DIAL" similar to that shown in Exhibit #13. In a similar manner the name of exchanges should be entered under "FOR NUMBERS IN" and the correct Directory Assistance codes shown under "DIAL". This information may be typed, stamped or imprinted on white paper stock and should be installed under the appropriate SEE THROUGH window. "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. (See Exhibit #37)

2589-CD-05 For use only in those small outlying exchanges which surround the master operating exchange where extended scope dialing is in effect. The form is made with SEE THROUGH windows for special dialing instructions. Information for "CALLS TO" should show the name of the exchange or exchange to which calls may be made on an extended scope basis and the correct code to dial followed by the wording "Listen Number" should be entered under "Dial" similar to that shown in Exhibit #13. In a similar manner the name of the exchange should be entered under For Numbers In and the correct Directory Assistance codes shown under "Dial." This information may be typed, stamped or imprinted on white paper stock and should be installed under the appropriate see through window. "OPERATOR" is dialed for Long Distance, assistance and emergencies. Western Union is listed in the directory. (See Exhibit #38)

2589-CD-06 For use in locations where "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. The Directory Assistance Code may be typed, stamped, or imprinted on white paper STOCK and should be installed under the SEE THROUGH Window which is provided. (See Exhibit #39)

2589-CD-07 For use in locations where "OPERATOR" is dialed for Long Distance, assistance and emergencies. Western Union is listed in the directory. The Directory Assistance code may be typed, stamped or imprinted on white paper stock and should be installed under the SEE THROUGH Window which is provided. (See Exhibit #40)

2589-LD-06 For use in locations where "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. "411" is dialed for Directory Assistance. (See Exhibit #41)

2589-LD-07 For use in locations where "OPERATOR" is dialed for

Long Distance, assistance and emergencies. Western Union is listed in the directory. "411" is dialed for Directory Assistance. (See Exhibit #42)

2589-LD-08 For use in locations where "OPERATOR" is dialed for Long Distance, assistance, emergencies and telegrams. "113" is dialed for Directory Assistance. (See Exhibit #43)

2589-LD-09 For use in locations where "OPERATOR" is dialed for Long Distance, assistance and emergencies. Western Union Union is listed in the directory. "113" is dialed for Directory Assistance. (See Exhibit #44)

2589-305 For use in areas equipped for TSPS. Includes instructions for placing station, credit card, collect, person to person and directory assistance calls in the 305 Area (See Exhibit #45)

5. COIN GAUGE GUARDS (KS-8487)

5.01 Coin gauge guards are used to direct the attention of customers who are accustomed to prepay coin operation, to "Read" the instructions of the postpay coin collector before depositing a coin.

5.02 There are two types, namely, the List 1, which has an arrow pointing up towards instruction card, and the List 2 which points down towards the instruction card. They are both mounted on the top of the upper housing in the same four holes used for the instruction Card Holder, etc. (See Exhibit #46)

5.03 Due care must be taken while installing these guards to prevent possible injury to the coin chutes.

DO NOT DEPOSIT MONEY UNTIL
SECOND DIAL TONE

LOCAL CALLS

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
3. WHEN SECOND DIAL TONE IS HEARD, DEPOSIT DIME OR TWO NICKELS PROMPTLY

OTHER CALLS

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, THEN DIAL

LONG DISTANCE . . . . .
ASSISTANCE . . . . . } DIAL "O" (OPERATOR)
EMERGENCIES . . . . .
TELEGRAMS . . . . . }

DIRECTORY ASSISTANCE . DIAL_____

FORM 6786-CD-02 (7-68)

EXHIBIT #1

DO NOT DEPOSIT MONEY UNTIL
SECOND DIAL TONE

LOCAL CALLS

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
3. WHEN SECOND DIAL TONE IS HEARD, DEPOSIT DIME OR TWO NICKELS PROMPTLY

OTHER CALLS

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, THEN DIAL

LONG DISTANCE . . . . .
ASSISTANCE . . . . . } DIAL "O" (OPERATOR)
EMERGENCIES . . . . .
TELEGRAMS . . . . . SEE WESTERN UNION IN DIRECTORY

DIRECTORY ASSISTANCE . DIAL_____

FORM 6786-CD-03 (7-68)

EXHIBIT #2

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP MONEY WILL BE RETURNED

LONG DISTANCE . . .
ASSISTANCE . . . . . } DIAL "O" (OPERATOR)
EMERGENCIES . . . .
TELEGRAMS . . . . .

DIRECTORY ASSISTANCE . .
DIAL_____

FORM 6786-CD-04 (7-68)

EXHIBIT #3

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP MONEY WILL BE RETURNED

LONG DISTANCE . . .
ASSISTANCE . . . . . } DIAL "O" (OPERATOR)
EMERGENCIES . . . .

TELEGRAMS . . . . SEE WESTERN UNION IN DIRECTORY

DIRECTORY ASSISTANCE . .
DIAL_____

FORM 6786-CD-05 (7-68)

EXHIBIT #4

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP, MONEY WILL BE RETURNED

LONG DISTANCE ..
ASSISTANCE ..... } DIAL "0"
EMERGENCIES .... } (OPERATOR)
TELEGRAMS .....

DIRECTORY ASSISTANCE. .DIAL 411

6786 LD 0 (7 68)

EXHIBIT #5

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP, MONEY WILL BE RETURNED

LONG DISTANCE ..
ASSISTANCE ..... } DIAL "0"
EMERGENCIES .... } (OPERATOR)

TELEGRAMS .. SEE WESTERN UNION IN DIRECTORY

DIRECTORY ASSISTANCE . DIAL 411

6786 LD-01 (7 68)

EXHIBIT #6

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER OR CODE
4. IF BUSY OR NO ANSWER, HANG UP, MONEY WILL BE RETURNED

LONG DISTANCE ..
ASSISTANCE ..... } DIAL "0"
EMERGENCIES .... } (OPERATOR)
TELEGRAMS .....

DIRECTORY ASSISTANCE. . DIAL 113

FORM 6786-LD-02 (2-63)

EXHIBIT #7

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP, MONEY WILL BE RETURNED

LONG DISTANCE ..
ASSISTANCE ..... } DIAL "0"
EMERGENCIES .... } (OPERATOR)

TELEGRAMS .... SEE WESTERN UNION IN DIRECTORY

DIRECTORY ASSISTANCE . DIAL 113

6786-LD 03 (7-68)

EXHIBIT #8

DO NOT DEPOSIT MONEY UNTIL
SECOND DIAL TONE

LOCAL CALLS

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
3. WHEN SECOND DIAL TONE IS HEARD, DEPOSIT DIME OR TWO NICKELS PROMPTLY

OTHER CALLS

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, THEN DIAL

LONG DISTANCE . .
ASSISTANCE . . . .
EMERGENCIES . . .
TELEGRAMS . . . . .
} DIAL "0" (OPERATOR)

DIRECTORY ASSISTANCE. DIAL 411

6786-CD-0 (7-68)

EXHIBIT #9

DO NOT DEPOSIT MONEY UNTIL
SECOND DIAL TONE

LOCAL CALLS

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
3. WHEN SECOND DIAL TONE IS HEARD, DEPOSIT DIME OR TWO NICKELS PROMPTLY

OTHER CALLS

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, THEN DIAL

LONG DISTANCE . .
ASSISTANCE . . . .
EMERGENCIES . . .
} DIAL "0" (OPERATOR)

TELEGRAMS . . SEE WESTERN UNION IN DIRECTORY

DIRECTORY ASSISTANCE. DIAL 411

6786-CD-01 (7-68)

EXHIBIT #10

DO NOT DEPOSIT MONEY
EXCEPT AS DIRECTED BELOW

LOCAL CALLS

1. LISTEN FOR DIAL TONE
2. DIAL NUMBER
3. WHEN CALLED NUMBER ANSWERS, DEPOSIT DIME (or TWO nickels)

LONG DISTANCE AND ALL OTHER CALLS

1. LISTEN FOR DIAL TONE
2. DIAL OPERATOR
3. DEPOSIT MONEY ON OPERATOR'S REQUEST

FORM 6786 CD NC-O (7-68)

EXHIBIT #11

PLEASE DIAL ALL LOCAL
AND LONG DISTANCE CALLS

DEPOSIT 10¢ - LISTEN FOR DIAL TONE- DIAL

STATION CALLS	DIAL
Local	Number
305 Area	1 + Number
Other Areas	1 + Area Code + Number
CREDIT CARD, COLLECT AND PERSON	
305 Area	"0" (Operator) + Number
Other Areas	"0" (Operator) + Area Code + Number
DIRECTORY ASSISTANCE	
Local	113
305 Area	1 + 555-1212
Other Areas	1 + Area Code + 555-1212
ASSISTANCE & EMERGENCIES	"0" (Operator)
Telegrams	See Western Union in Directory

EXHIBIT #12

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, DIAL NUMBER OR CODE (SEE BELOW)
4. IF BUSY OR NO ANSWER, HANG UP, MONEY WILL BE RETURNED

CALLS TO	DIAL	
Clarkston		Listed Number
Chamblee	5+	Listed Number
Stone Mountain	9+	Listed Number
Tucker	6+	Listed Number
All Other Exchanges in Metropolitan Calling Area (See Directory)	8+	Listed Number

CALLS FOR	INFORMATION FOR NUMBERS IN:	DIAL
LONG DISTANCE, ASSISTANCE, EMERGENCIES	DIAL "O" (OPERATOR)	
TELEGRAMS	SEE WESTERN UNION IN DIRECTORY	
	Acworth, Austell, Marietta, Smyrna, Powder Springs & Woodstock	8-113
	All other Exchanges	113

Prepay Dial Coin Telephone
With Additional Special Instructions

EXHIBIT #13

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, DIAL NUMBER (SEE BELOW)
4. IF BUSY OR NO ANSWER, HANG UP, MONEY WILL BE RETURNED

CALLS TO	DIAL

CALLS FOR	DIRECTORY ASSISTANCE FOR NUMBERS IN:	DIAL
LONG DISTANCE, ASSISTANCE, EMERGENCIES, TELEGRAMS		DIAL "O" (OPERATOR)

6860-CD-O (7-68)

EXHIBIT #14

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, DIAL NUMBER (SEE BELOW)
4. IF BUSY OR NO ANSWER, HANG UP, MONEY WILL BE RETURNED

CALLS TO	DIAL

CALLS FOR	DIRECTORY ASSISTANCE FOR NUMBERS IN:	DIAL
LONG DISTANCE, ASSISTANCE, EMERGENCIES		DIAL "O" (OPERATOR)
TELEGRAMS	SEE WESTERN UNION IN DIRECTORY	

FORM 6860-CD-01 (7-68)

EXHIBIT #15

DO NOT DEPOSIT MONEY UNTIL
SECOND DIAL TONE

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, DIAL NUMBER (SEE BELOW)
3. WHEN SECOND DIAL TONE IS HEARD, DEPOSIT DIME OR TWO NICKELS PROMPTLY

CALLS TO	DIAL

CALLS FOR

LONG DISTANCE . . . . .
ASSISTANCE . . . . . } DIAL "O" (OPERATOR)
EMERGENCIES . . . . .
TELEGRAMS . . . . . }

FORM 6860-CD-02 (7-68)

DIRECTORY ASSISTANCE

FOR NUMBERS IN:	DIAL

EXHIBIT #16

DO NOT DEPOSIT MONEY UNTIL
SECOND DIAL TONE

1. REMOVE RECEIVER
2. LISTEN FOR DIAL TONE, DIAL NUMBER (SEE BELOW)
3. WHEN SECOND DIAL TONE IS HEARD, DEPOSIT DIME OR TWO NICKELS PROMPTLY

CALLS TO	DIAL

CALLS FOR

LONG DISTANCE . . . . .
ASSISTANCE . . . . . } DIAL "O" (OPERATOR)
EMERGENCIES . . . . .
TELEGRAMS . . . . SEE WESTERN UNION IN DIRECTORY

FORM 6860-CD-03 (7-68)

DIRECTORY ASSISTANCE

FOR NUMBERS IN:	DIAL

EXHIBIT #17

PLEASE DIAL ALL LOCAL AND LONG DISTANCE CALLS

REMOVE RECEIVER- DEPOSIT 10¢
LISTEN FOR DIAL TONE- THEN DIAL

STATION CALLS	DIAL
Local	Number
Other Within The 305 Area	1 + Number
Other Areas	1 + Area Code + Number

CREDIT CARD, COLLECT & PERSON
Within The 305 Area "0" (Operator) + Number
Other Areas "0" (Operator) + Area Code + Number

DIRECTORY ASSISTANCE

Local	113
Within The 305 Area	1 + 555-1212
Outside The 305 Area	1 + Area Code + 555-1212

ASSISTANCE & EMERGENCIES "0" (Operator)

TELEGRAMS . . . See Western Union in Directory

EXHIBIT #18

Form 6860 (7-68)

THIS TELEPHONE IS EQUIPPED FOR PLACING OUTGOING CALLS ONLY

LONG DISTANCE OPERATOR WILL NOT BE ABLE TO RING
BACK ON INCOMPLETE LONG DISTANCE CALLS

EXHIBIT #19

FOR YOUR CONVENIENCE

when placing

COLLECT CALLS

CREDIT CARD CALLS

CALLS CHARGED TO THIRD TELEPHONES

A DIRECT LINE TO THE LONG DISTANCE OPERATOR (NO COINS REQUIRED) IS PROVIDED IN DESIGNATED BOOTH

FORM 6016-A (7-68)

EXHIBIT #21

DIRECT LINE TO LONG DISTANCE OPERATOR

FOR PLACING

COLLECT CALLS

CREDIT CARD CALLS

CALLS CHARGED TO THIRD TELEPHONES

---

1. REMOVE RECEIVER.
2. WHEN OPERATOR ANSWERS, PLACE CALL THE USUAL WAY.

"PAID" CALLS CAN NOT BE MADE FROM THIS TELEPHONE. PLEASE USE ANOTHER BOOTH.

FORM 6016 (7-68)

EXHIBIT #20

PLEASE READ

INSTRUCTIONS

BEFORE

PLACING CALL

FORM 6863
(9-53)

EXHIBIT #22

PLEASE READ

INSTRUCTIONS

ABOVE BEFORE

PLACING CALL

6863-1(3-69)

EXHIBIT #23

THIS TELEPHONE
IS EQUIPPED
FOR PLACING
OUTGOING CALLS ONLY

LONG DISTANCE OPERATOR WILL NOT BE ABLE TO RING BACK ON INCOMPLETE LONG DISTANCE CALLS

SEE INSTRUCTIONS ABOVE

6863-2(3 69)

EXHIBIT #24

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP, COINS WILL BE RETURNED

FOR SPECIAL CALLS ..... SEE CARD BELOW

2533 (7-68)

EXHIBIT #25

2533 N1 (7 68)

NOTICE THIS PHONE ARRANGED FOR OUTGOING CALLS ONLY

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP, COINS WILL BE RETURNED

FOR SPECIAL CALLS ..... SEE CARD BELOW

EXHIBIT #26

PLEASE DIAL ALL LOCAL AND LONG DISTANCE CALLS

REMOVE RECEIVER- DEPOSIT 10¢
LISTEN FOR DIAL TONE- THEN DIAL

SEE CARD BELOW

2533 TSPS

EXHIBIT #27

CALLS TO DIAL

CALLS FOR	DIRECTORY ASSISTANCE
LONG DISTANCE .... } DIAL "0" (OPERATOR) ASSISTANCE ..... } EMERGENCIES..... } TELEGRAMS..... }	FOR NUMBERS IN: DIAL

2534-CD-0 (7-68)

EXHIBIT #28

CALLS TO DIAL

CALLS FOR	DIRECTORY ASSISTANCE
LONG DISTANCE .... } DIAL "0" (OPERATOR) ASSISTANCE ..... } EMERGENCIES..... } TELEGRAMS.. SEE WESTERN UNION IN DIRECTORY	FOR NUMBERS IN: DIAL

2534-CD-01 (7-68)

EXHIBIT #29

CALLS FOR

LONG DISTANCE.....
ASSISTANCE..... } DIAL "0" (OPERATOR)
EMERGENCIES ..... }
TELEGRAMS ..... }

DIRECTORY ASSISTANCE ..... DIAL _____

2534-CD-02 (7-68)

EXHIBIT #30

CALLS FOR

LONG DISTANCE	DIAL "0" (OPERATOR)
ASSISTANCE	
EMERGENCIES	
TELEGRAMS	SEE WESTERN UNION IN DIRECTORY
DIRECTORY ASSISTANCE	DIAL _____

2534-CD-03 (7-68)

EXHIBIT #31

CALLS FOR

LONG DISTANCE.....	DIAL "0" (OPERATOR)
ASSISTANCE.....	
EMERGENCIES	
TELEGRAMS	
DIRECTORY ASSISTANCE	DIAL 411

2534-LD-0 (7-68)

EXHIBIT #32

CALLS FOR

LONG DISTANCE	DIAL "0" (OPERATOR)
ASSISTANCE	
EMERGENCIES	
TELEGRAMS	SEE WESTERN UNION IN DIRECTORY
DIRECTORY ASSISTANCE	DIAL 411

2534 LD 01 (7-68)

EXHIBIT #33

CALLS FOR

LONG DISTANCE	DIAL "0" (OPERATOR)
ASSISTANCE	
EMERGENCIES	
TELEGRAMS	
DIRECTORY ASSISTANCE	DIAL 113

2534-LD-02 (7-68)

EXHIBIT #34

CALLS FOR

LONG DISTANCE	DIAL "0" (OPERATOR)
ASSISTANCE	
EMERGENCIES	
TELEGRAMS	SEE WESTERN UNION IN DIRECTORY
DIRECTORY ASSISTANCE	DIAL 113

2534-LD-03 (7-68)

EXHIBIT #35

2534-305 (3-69)

STATION CALLS	DIAL
Local	Number
Other Within The 305 Area	1 + Number
Other Outside The 305 Area	1 + Area Code + Number
CREDIT CARD, COLLECT & PERSON	
Within The 305 Area	"0" (Operator) + Number
Outside The 305 Area	"0" (Operator) + Area Code + Number
DIRECTORY ASSISTANCE	
Local	113
Within The 305 Area	1 + 555-1212
Outside The 305 Area	1 + Area Code + 555-1212
ASSISTANCE & EMERGENCIES	"0" (Operator)
TELEGRAMS	See Western Union in Directory

EXHIBIT #36

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP - COINS WILL BE RETURNED

FORM F-2569-CD-04 (12-64)

CALLS TO	DIAL
LONG DISTANCE ASSISTANCE EMERGENCIES TELEGRAMS	DIAL "O" (OPERATOR)

CALLS FOR	DIRECTORY ASSISTANCE	
	FOR NUMBERS IN:	DIAL
LONG DISTANCE ASSISTANCE EMERGENCIES TELEGRAMS	DIAL "O" (OPERATOR)	

EXHIBIT #37

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP - COINS WILL BE RETURNED

FORM F-2569-CD-05 (12-64)

CALLS TO	DIAL
LONG DISTANCE ASSISTANCE EMERGENCIES TELEGRAMS	DIAL "O" (OPERATOR) SEE WESTERN UNION IN DIRECTORY

CALLS FOR	DIRECTORY ASSISTANCE	
	FOR NUMBERS IN:	DIAL
LONG DISTANCE ASSISTANCE EMERGENCIES TELEGRAMS	DIAL "O" (OPERATOR) SEE WESTERN UNION IN DIRECTORY	

EXHIBIT #38

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP - COINS WILL BE RETURNED

FORM F-2569-CD-06 (12-64)

CALLS FOR	
LONG DISTANCE ASSISTANCE EMERGENCIES TELEGRAMS	DIAL "O" (OPERATOR)
DIRECTORY ASSISTANCE	DIAL_____

EXHIBIT #39

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP - COINS WILL BE RETURNED

FORM F-2569-CD-07 (12-64)

CALLS FOR	
LONG DISTANCE	DIAL "O" (OPERATOR)
ASSISTANCE	
EMERGENCIES	
TELEGRAMS	SEE WESTERN UNION IN DIRECTORY
DIRECTORY ASSISTANCE	DIAL_____

EXHIBIT #40

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP - COINS WILL BE RETURNED

FORM F-2569-LD-06 (12-64)

CALLS FOR	
LONG DISTANCE	DIAL "O" (OPERATOR)
ASSISTANCE	
EMERGENCIES	
TELEGRAMS	
DIRECTORY ASSISTANCE	DIAL 411

EXHIBIT #41

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP - COINS WILL BE RETURNED

FORM F-2569-LD-07 (12-64)

CALLS FOR		
LONG DISTANCE	DIAL "O" (OPERATOR)	
ASSISTANCE		
EMERGENCIES		
TELEGRAMS		SEE WESTERN UNION IN DIRECTORY
DIRECTORY ASSISTANCE		DIAL 411

EXHIBIT #42

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP - COINS WILL BE RETURNED

FORM F-2589-LD-08 (12-64)

CALLS FOR	
LONG DISTANCE	DIAL "O" (OPERATOR)
ASSISTANCE	
EMERGENCIES	
TELEGRAMS	
DIRECTORY ASSISTANCE	DIAL 113

EXHIBIT #43

1. REMOVE RECEIVER
2. DEPOSIT DIME OR TWO NICKELS
3. LISTEN FOR DIAL TONE, THEN DIAL NUMBER
4. IF BUSY OR NO ANSWER, HANG UP - COINS WILL BE RETURNED

FORM F-2589-LD-09 (12-64)

CALLS FOR	
LONG DISTANCE	DIAL "O" (OPERATOR)
ASSISTANCE	
EMERGENCIES	
TELEGRAMS	SEE WESTERN UNION IN DIRECTORY
DIRECTORY ASSISTANCE	DIAL 113

EXHIBIT #44

PLEASE DIAL ALL LOCAL AND LONG DISTANCE CALLS

REMOVE RECEIVER- DEPOSIT 10¢ - LISTEN FOR DIAL TONE- THEN DIAL

STATION CALLS	DIAL
Local	Number
Other Within The 305 Area	1 + Number
Other Outside The 305 Area	1 + Area Code + Number
CREDIT CARD, COLLECT & PERSON	
Within The 305 Area	"0" (Operator) + Number
Outside The 305 Area	"0" (Operator) + Area Code + Number
DIRECTORY ASSISTANCE	
Local	113
Within The 305 Area	1 + 555-1212
Outside The 305 Area	1 + Area Code + 555-1212
ASSISTANCE & EMERGENCIES	"0" (Operator)
TELEGRAMS	See Western Union in Directory

EXHIBIT #45

SUBSCRIBER SETS 634A,BA; 684A,BA
COMMON BATTERY—INDUCTION COIL TYPE
USED WITH COIN COLLECTORS
CONNECTIONS

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TABLE A

CONNECTIONS

Type of Service	Subscriber Set Connections (Wire or Lead)								
Prepay Manual and Dial Type Coin Collectors	Ringer Lead			Local Wire From Coin Collector					
	R	BK	GN	R	BK	Y	R	GN	Y
RCVR-XMTR Types 155C, D, G, H 166C, D, G, H Hand Set Types 174C, D, G, H, CS, GS, CT, GT 176C, D, G, H, CS, GS, CT, GT	L1	K	GN	R	BK	L2Y	L1	—	—

Type of Service	Subscriber Set Connections (Wire or Lead) (See Note 1)											
Postpay Manual and Dial (CDO) Type Coin Collectors	Inside Wire from Protector or Line (See Note 2)			Ringer Lead			Local Wiring to Coin Collector					
	R	GN	Y	R	BK	GN	R	BK	Y	R	GN	Y
RCVR-XMTR Types Manual — Dial 150K, L — 158G, H 162A, B, C, D — 168G, H Hand Set Types Manual — Dial 152C, D — 177G, H 164C, D — 178G, H	L1	L2Y	—	L1	K	GN	R	BK	L2Y	—	—	—

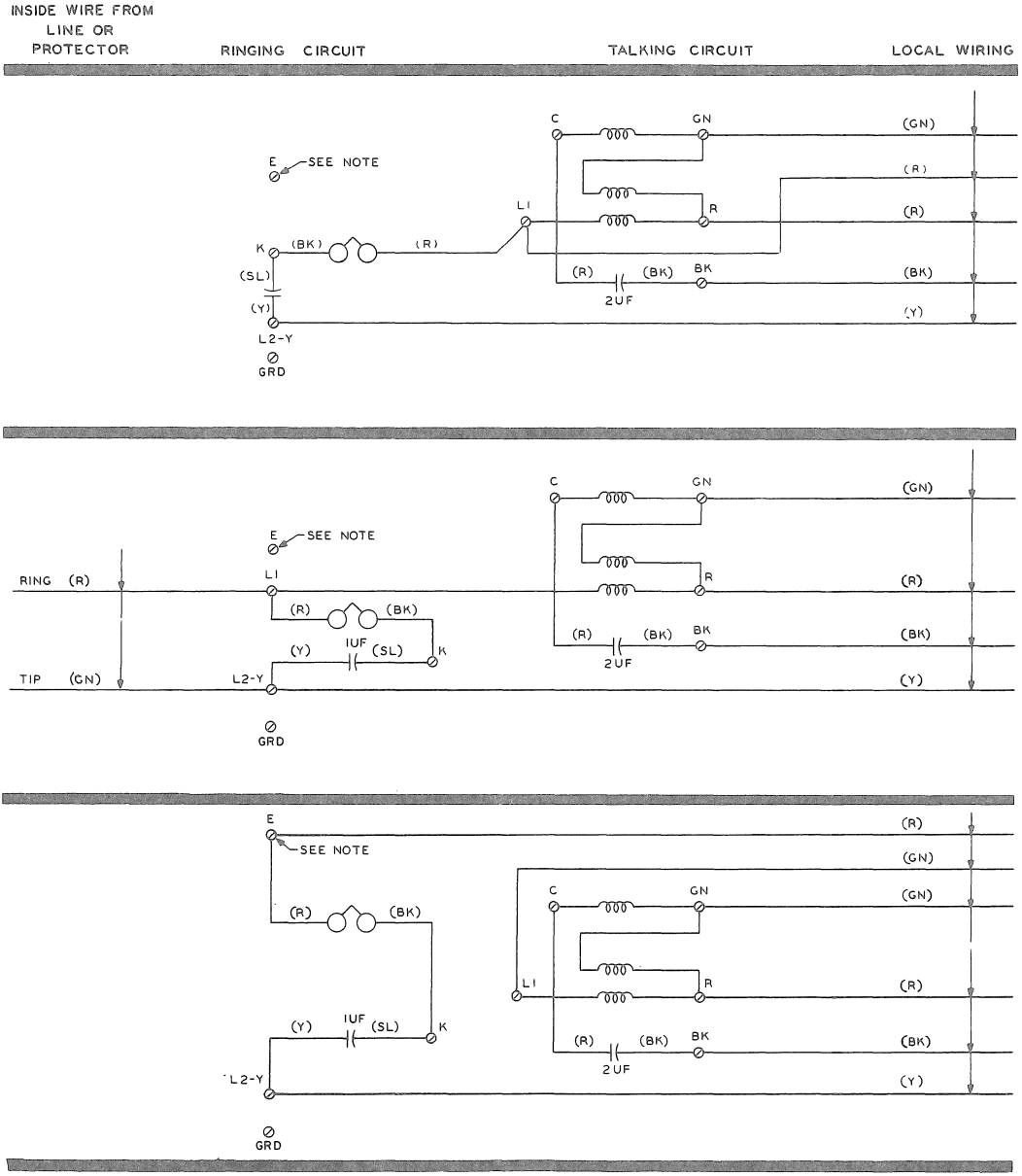
Type of Service	Subscriber Set Connections (Wire or Lead)								
Prepay Dial Type Coin Collectors with Dial Shorting Relay	Ringer Lead			Local Wire From Coin Collector					
	R	BK	GN	R	BK	Y	R	GN	Y
RCVR-XMTR Types D-178457 D-178875 Hand Set Types D-178940 D-178942	E*	K	GN	R	BK	L2Y	E*	L1	—

Note 1: Use only 634BA or 684BA (high-impedance ringer) in community dial office.

Note 2: The line wires are shown terminated in the subscriber set in the table and circuit diagram. When desired by the telephone company, they may be terminated in the coin collector set.

Note 3: All connections are shown for individual line, bridged ringing installations. If other ringing arrangements are required, refer to Fig. 1 and Table A of the section entitled Subscriber Sets 634A,BA,C; 684A,BA,C Common Battery, Induction Coil Type Used with Hand Telephone Sets, Connections, for appropriate ringer connections.

* For subscriber sets not equipped with E terminal, use the D-161488 connector.



Note: When an E terminal is not normally provided in subscriber sets, use D-161488 connector to connect local wiring to *R* ringer lead.

Fig. 1 — Circuit Diagram of 634A and BA; 684A and BA Subscriber Sets for Connection with Coin Collectors

SUBSCRIBER SETS—634BC AND 684BC
COMMON BATTERY—INDUCTION COIL TYPE
USED WITH COIN COLLECTORS
CONNECTIONS

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TABLE A

CONNECTIONS

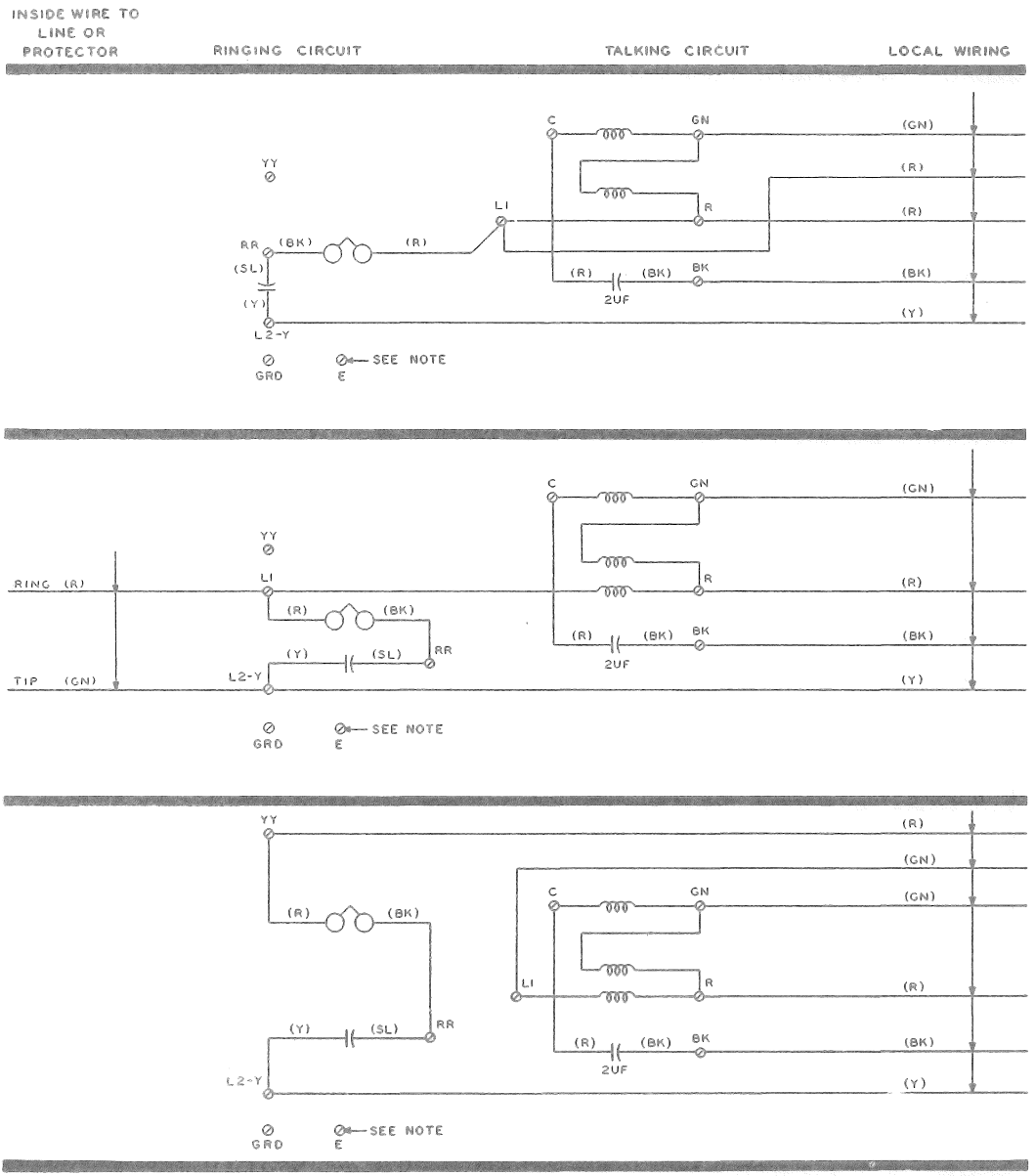
Type of Service	Subscriber Set Connections (Wire or Lead)								
Prepay Manual and Dial Type Coin Collectors	Ringer Lead		Local Wiring to Coin Collector						
	R	BK	GN	R	BK	Y	R	GN	Y
RCVR-XMTR Types 155C, D, G, H 166C, D, G, H Hand Set Types 174C, D, G, H, CS, GS, CT, GT 176C, D, G, H, CS, GS, CT, GT	L1	RR	GN	R	BK	L2Y	L1	—	—

Type of Service	Subscriber Set Connections (Wire or Lead)											
Postpay Manual Type Coin Collectors	Inside Wire from Protector or Line*			Ringer Lead	Local Wiring to Coin Collector							
	R	GN	Y	R	BK	GN	R	BK	Y	R	GN	Y
RCVR-XMTR Types Manual 150K, L 162A, B, C, D Hand Set Types Manual 152C, D 164C, D	L1	L2Y	—	L1	RR	GN	R	BK	L2Y	—	—	—

Type of Service	Subscriber Set Connections (Wire or Lead)								
Prepay Dial Type Coin Collectors with Dial Shorting Relay	Ringer Lead		Local Wiring to Coin Collector						
	R	BK	GN	R	BK	Y	R	GN	Y
RCVR-XMTR Types D-178457 D-178875 Hand Set Types D-178940 D-178942	YY	RR	GN	R	BK	L2Y	YY	L1	—

Note: All connections are shown for individual line, bridged ringing installations. If other ringing arrangements are required, refer to Fig. 1 and Table A of section entitled Subscriber Sets, 634BC and 684BC, Common Battery, Induction Coil Type Used with Hand Telephone Sets, Connections.

* The line wires are shown terminated in the subscriber set in the table and circuit diagram. When desired by the telephone company, they may be terminated in the coin collector set.



Note: When E terminal is not provided, use D-161488 connector.

Fig. 1 — Circuit Diagram for Connection with Coin Collectors

SUBSCRIBER SETS—634CG, CH, CK, CL; 684CK, CL

COMMON BATTERY—INDUCTION COIL TYPE—CONNECTIONS

RINGING CIRCUIT TALKING CIRCUIT LOCAL WIRING

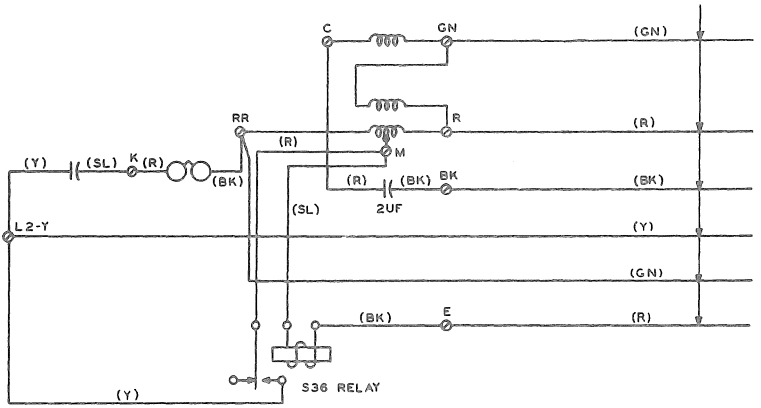


TABLE A—CONNECTIONS FOR LONG LOOPS

Type of Service	Subscriber Set 634CG, CH (Wire or Lead)											
Prepay Manual or Dial-Type Coin Collectors	Ringer Lead		S-36 Relay Lead				Local Wiring from Coin Collector					
	R	BK	R	Y	BK	SL	GN	R	BK	Y	R	GN
Rcvr, Xmtr Types 155C, D, G, H 166C, D, G, H	K	RR	M	L2Y	E	M	GN	R	BK	L2Y	E	RR
Hand Set Types 174C, D, G, H 174CS, GS, CT, GT 176C, D, G, H 176CS, GS, CT, GT												

RINGING CIRCUIT TALKING CIRCUIT LOCAL WIRING

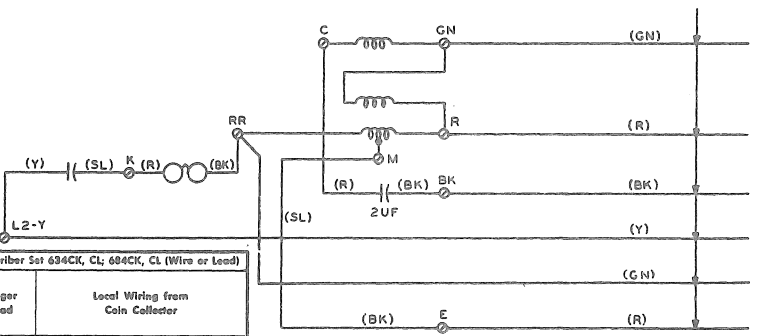


TABLE B
CONNECTIONS FOR REDUCTION OF INDUCTIVE NOISE

Type of Service	Subscriber Set 634CK, CL; 684CK, CL (Wire or Lead)							
Prepay Manual or Dial-Type Coin Collectors (Reduction of Inductive Noise)	Ringer Lead		Local Wiring from Coin Collector					
	R	BK	GN	R	BK	Y	R	GN
Rcvr, Xmtr Types 155C, D, G, H 166C, D, G, H	K	RR	GN	R	BK	L2Y	E	RR
Hand Set Types 174C, D, G, H 174CS, GS, CT, GT 176C, D, G, H 176CS, GS, CT, GT								

Fig. 1—Circuit Diagram for Connection with Coin Collectors

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685A SUBSCRIBER SETS-USED WITH COIN COLLECTORS

CONNECTIONS

1. GENERAL

1.01 This section is reissued to:

- Show MD and current wire color codes
- Show MD and current coin collector codes
- Add information on 234G and 1234G coin collectors
- Revise illustrations and tables to reflect above changes

2. CONNECTIONS

2.01 See Fig. 1 and Table A for circuit diagram and connections for prepay manual and rotary-dial coin collectors.

2.02 See Fig. 2 and Table B for circuit diagram and connections for prepay TOUCH-TONE® dial coin collectors.

2.03 See Fig. 3 and Table C for circuit diagram and connections for postpay manual and rotary-dial coin collectors.

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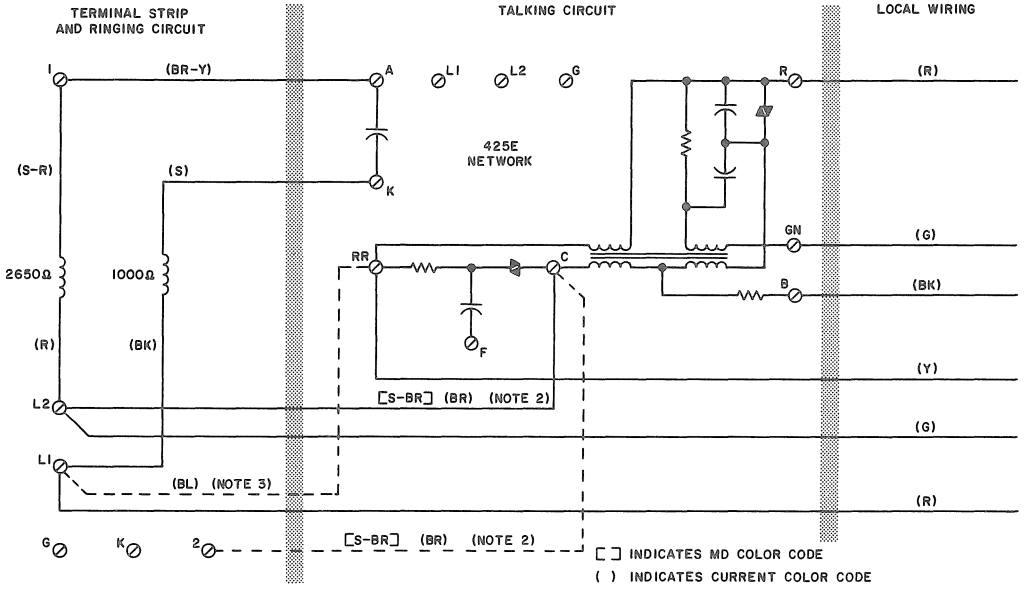

Fig. 1 — Circuit Diagram for Connections with Prepay Manual and Rotary Dial Coin Collectors

TABLE A

CONNECTIONS FOR PREPAY MANUAL AND ROTARY-DIAL COIN COLLECTORS

TYPE OF SERVICE		TERM. LOC.	SUBSCRIBER SET CONNECTIONS (WIRE OR LEAD)												
PREPAY MANUAL AND ROTARY — DIAL TYPE COIN COLLECTORS			RINGER LEAD (Note 1)				STRAPS — NETWORK TO TERMINAL STRIP			LOCAL WIRE FROM COIN COLLECTOR					
CURRENT CODES	MD CODES		S	BK	R	S-R	[S-BR] (BR)	BL	BR-Y	R	G	BK	Y	G	R
191, 195, 196, 197 (CNT, DNT, GNT, HNT)	191, 195, 196, 197 (CN, DN, GN, HN, CNS, DNS, GNS, HNS)	Ntwk.	K	—	—	—	See Note 2	See Note 3	A	R	GN	B	RR	—	—
220, 223 (CT, DT, GT, HT) 230G 233G 234G	220, 223 (C, D, G, H) 230, 233 (C, D, H)	Term. Strip	—	L1	L2	1			1	—	—	—	—	L2	L1

Notes: 1. All connections are shown for bridged ringing, individual line installations. If other ringing arrangements are required, refer to section on connections for 685 subscriber sets used with hand telephone sets.

2. Disconnect the [S-BR] (BR) wire from 2 on terminal strip and connect it to L2. The other end of this wire is connected to C of the network.

3. Disconnect and remove the BL strap wire between RR of network and L1 of terminal strip.

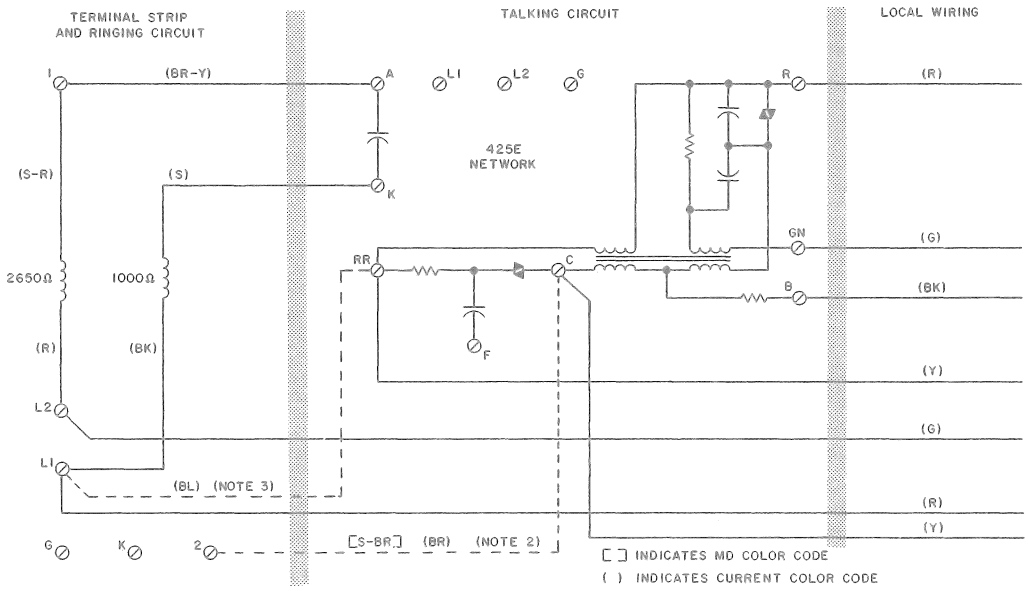

Fig. 2 — Circuit Diagram for Connections with Prepay TOUCH-TONE Dial Coin Collectors

TABLE B

CONNECTIONS FOR PREPAY TOUCH-TONE DIAL COIN COLLECTORS

TYPE OF SERVICE	TERM. LOC.	SUBSCRIBER SET CONNECTIONS (WIRE OR LEAD)													
PREPAY TOUCH-TONE DIAL TYPE COIN COLLECTORS		RINGER LEAD (Note 1)				STRAPS — NETWORK TO TERMINAL STRIP			LOCAL WIRE FROM COIN COLLECTOR						
		S	BK	R	S-R	[S-BR] (BR)	BL	BR-Y	R	G	BK	Y	G	R	Y
1234G	Ntwk.	K	—	—	—	See Note 2	See Note 3	A	R	GN	B	RR	—	—	C
	Term. Strip	—	L1	L2	1			1	—	—	—	—	L2	L1	—

Notes: 1. All connections are shown for bridged ringing, individual line installations. If other ringing arrangements are required, refer to section on connections for 685 subscriber sets used with hand telephone sets.

2. Disconnect and remove the [S-BR] (BR) strap wire between C of network and 2 of terminal strip.

3. Disconnect and remove the BL strap wire between RR of network and L1 of terminal strip.

4. Early models of the 1234G coin collector used a 685D subscriber set which is rated MD.

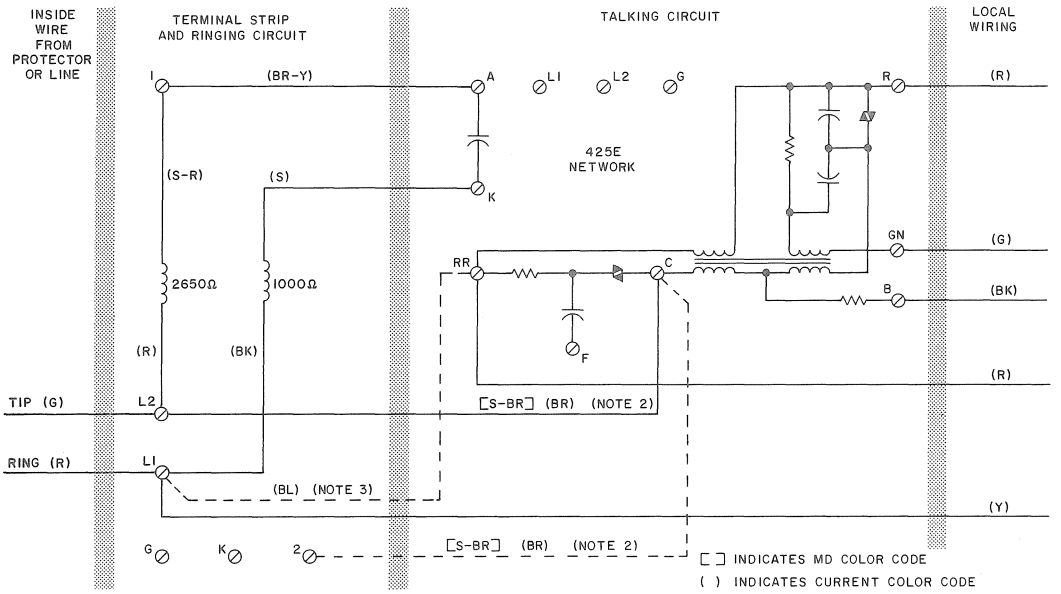

Fig. 3 — Circuit Diagram for Connections with Postpay Manual and Rotary Dial Coin Collectors

TABLE C

CONNECTIONS FOR POSTPAY MANUAL AND ROTARY-DIAL COIN COLLECTORS

TYPE OF SERVICE		TERM. LOC.	SUBSCRIBER SET CONNECTIONS (WIRE OR LEAD)															
POSTPAY MANUAL AND ROTARY-DIAL TYPE COIN COLLECTORS			INSIDE WIRE FROM LINE OR PROTECTOR			RINGER LEAD (Note 1)				STRAPS — NETWORK TO TERM. STRIP		LOCAL WIRE FROM COIN COLLECTOR						
CURRENT CODES	MD CODES		R	G	Y	S	BK	R	S-R	[S-BR] (BR)	BL	BR-Y	R	G	BK	Y	G	R
200C	182CN, DN 193GN, HN 198GN, HN	Ntwk.	—	—	—	K	—	—	—	See Note 2	See Note 3	A	R	GN	B	—	—	RR
210G 212G	200D 210H 212H	Term. Strip	L1	L2	—	—	L1	L2	1			1	—	—	—	L1	—	—

Notes: 1. All connections are shown for bridged ringing, individual line installations. If other ringing arrangements are required, refer to section on connections for 685 subscriber sets used with hand telephone sets.

2. Disconnect the [S-BR] (BR) wire from 2 on terminal strip and connect it to L2. The other end of this wire is connected to C of the network.

3. Disconnect and remove the BL strap wire between RR of network and L1 of terminal strip.

SUBSCRIBER SETS—685B
USED WITH COIN COLLECTORS
CONNECTIONS

TABLE A
CONNECTIONS

Type of Service	Terminal Location	Subscriber Set Connections (Wire or Lead)																
Prepay Manual and Dial Type Coin Collectors		Ringer Lead				Straps Network to Terminal Block		S-36 Relay Lead				Local Wiring from Coin Collector						
		S	BK	R	S-R	S-BR	BR-Y	R	Y	BK *	S	G	R	BK	Y	G	R	Y
Handset Types: 191, 195, 196, 197 (CN, DN, GN, HN) (CNS, DNS, GNS, HNS) (CNT, DNT, GNT, HNT) 220, 223 (C, D, G, H) (CT, DT, GT, HT) 230, 233 (C, D, G, H)	Network	K	—	—	—	C	A	—	—	B	—	GN	R	B	RR	—	—	—
	Terminal Block	—	L1	L2	1	L2	1	L1	L2	—	K	—	—	—	—	L2	L1	K

* Sets may have BK lead from the S36 relay connected to terminal 2 of terminal block. Move strap to terminal B of 425E network.

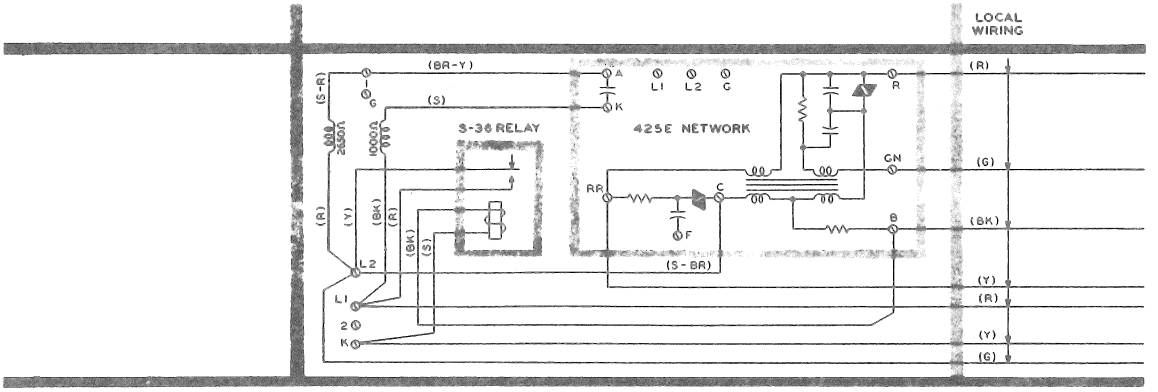

Fig. 1 - Circuit Diagram for Connection With Coin Collectors

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COIN COLLECTORS—PREPAY
155C, D, G, H
COMMON BATTERY—CONNECTIONS

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Note 1: In some upper housings, terminals may be designated Y, BB, YY, W, and BK-YY, respectively. Terminal 5 is not always furnished.

Note 2: Dotted lines in diagram show manual set connections.

Note 3: When a 61R filter is required for radio frequency suppression, move yellow dial lead from Y upper-housing contact spring to filter bracket terminal, and connect filter leads as follows:

- Yellow lead to filter bracket terminal.
- Black lead to A terminal on chute.
- Red lead to Y upper-housing contact.

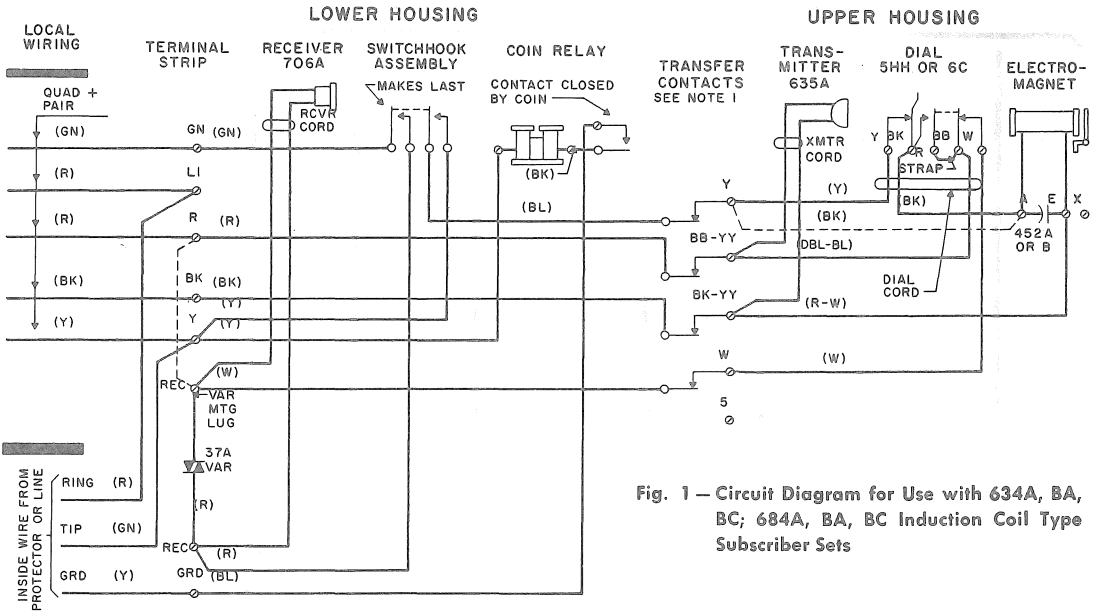

Fig. 1 — Circuit Diagram for Use with 634A, BA, BC; 684A, BA, BC Induction Coil Type Subscriber Sets

SEE NOTES ON FACING PAGE

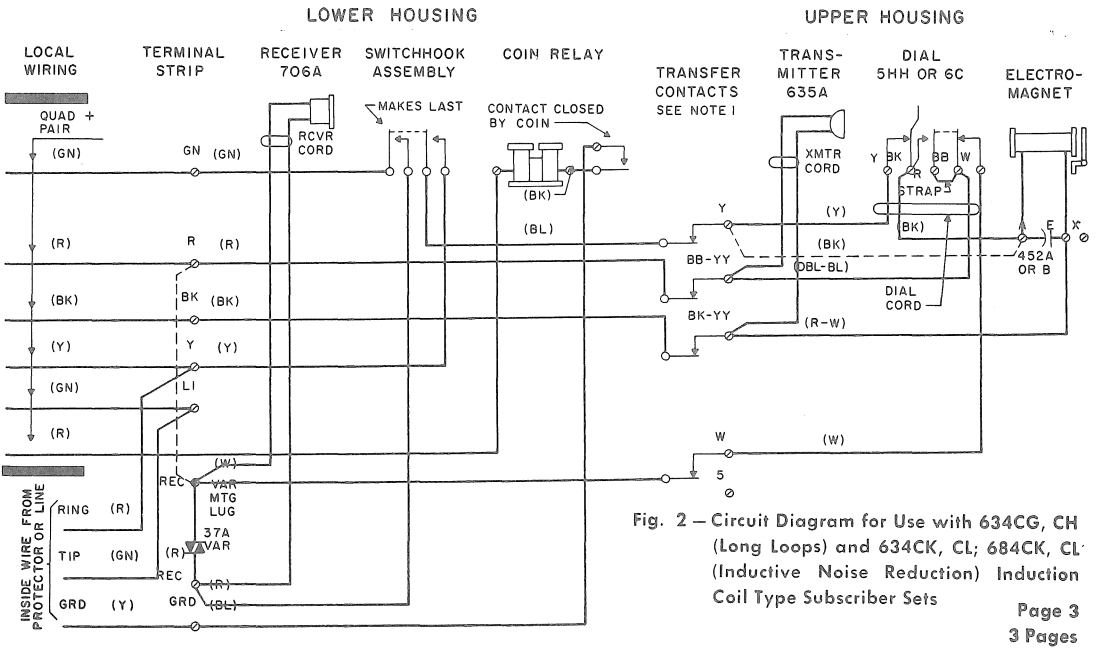

Fig. 2 — Circuit Diagram for Use with 634CG, CH (Long Loops) and 634CK, CL; 684CK, CL (Inductive Noise Reduction) Induction Coil Type Subscriber Sets

COIN COLLECTORS—PREPAY
166C, D, G, H
COMMON BATTERY—CONNECTIONS

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Note 1: In some upper housings, terminals may be designated W, BB, YY, Y, and BK-YY, respectively. Terminal 5 is not always furnished.

Note 2: Dotted lines in diagram show manual set connections.

Note 3: When a 61R filter is required for radio frequency suppression, move yellow dial lead from Y upper-housing contact spring to filter bracket terminal and connect filter leads as follows:

- Yellow lead to filter bracket terminal.
- Black lead to A terminal on chute.
- Red lead to Y upper-housing contact.

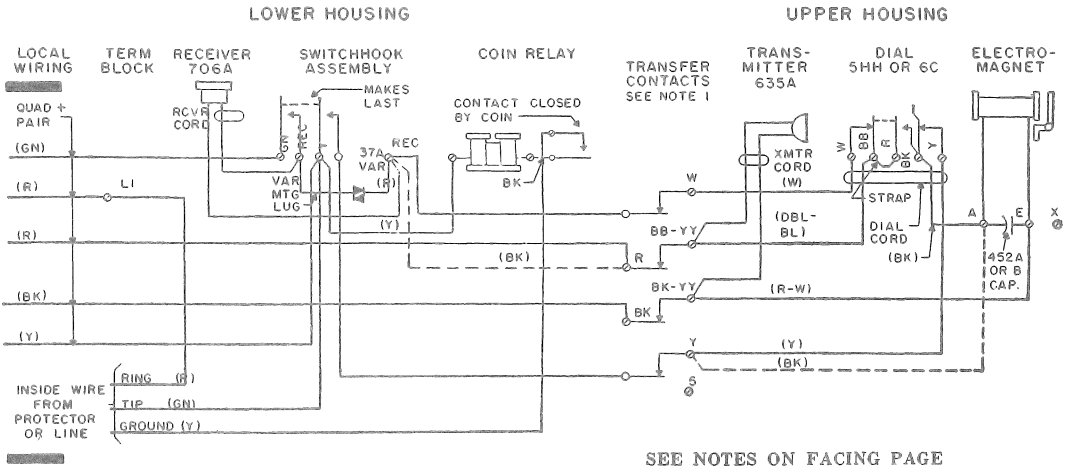

Fig. 1 — Circuit Diagram for Use with 634A, BA, and BC and 684A, BA, and BC Induction Coil Type Subscriber Sets

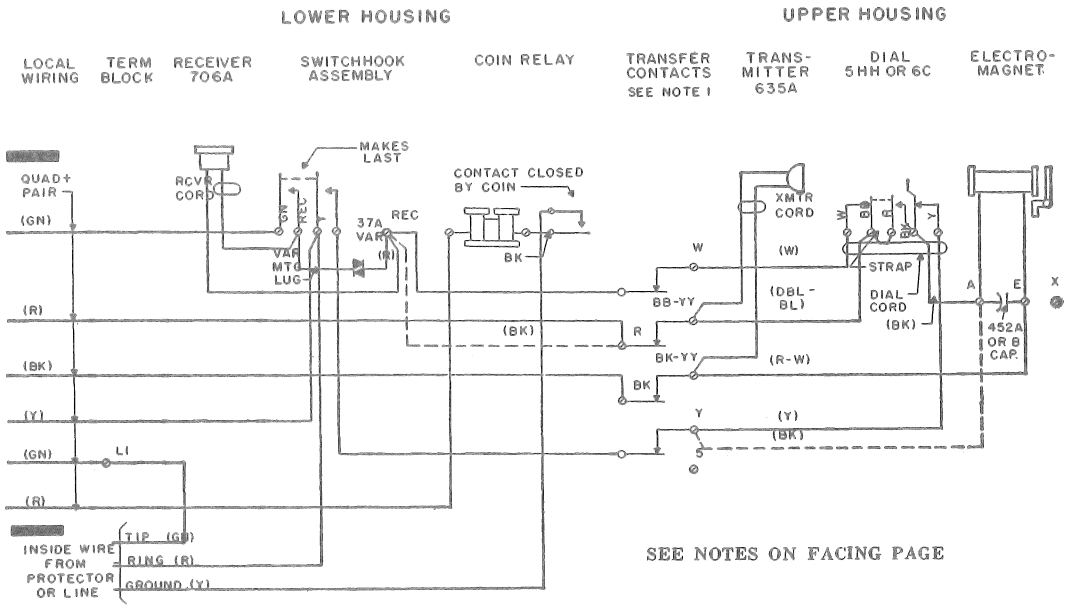

Fig. 2 — Circuit Diagram for Use with 634CG and CH (Long Loops); 634CK, CL; and 684CK, CL (Inductive Noise Reduction) Induction Coil Type Subscriber Sets

COIN COLLECTORS—PREPAY
174C, D, G, H
COMMON BATTERY—CONNECTIONS

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Note 1: In some upper housings, transfer contacts may be designated Y, BB, YY, W, and BK-YY, respectively.

Note 2: Dotted lines in diagram show manual set connections.

Note 3: When a 61R filter is required for radio-frequency suppression, move yellow dial lead from Y upper housing contact spring to filter bracket terminal and connect filter leads as follows:

Yellow lead to filter bracket terminal

Black lead to No. 5 upper housing contact

Red lead to Y upper housing contact.

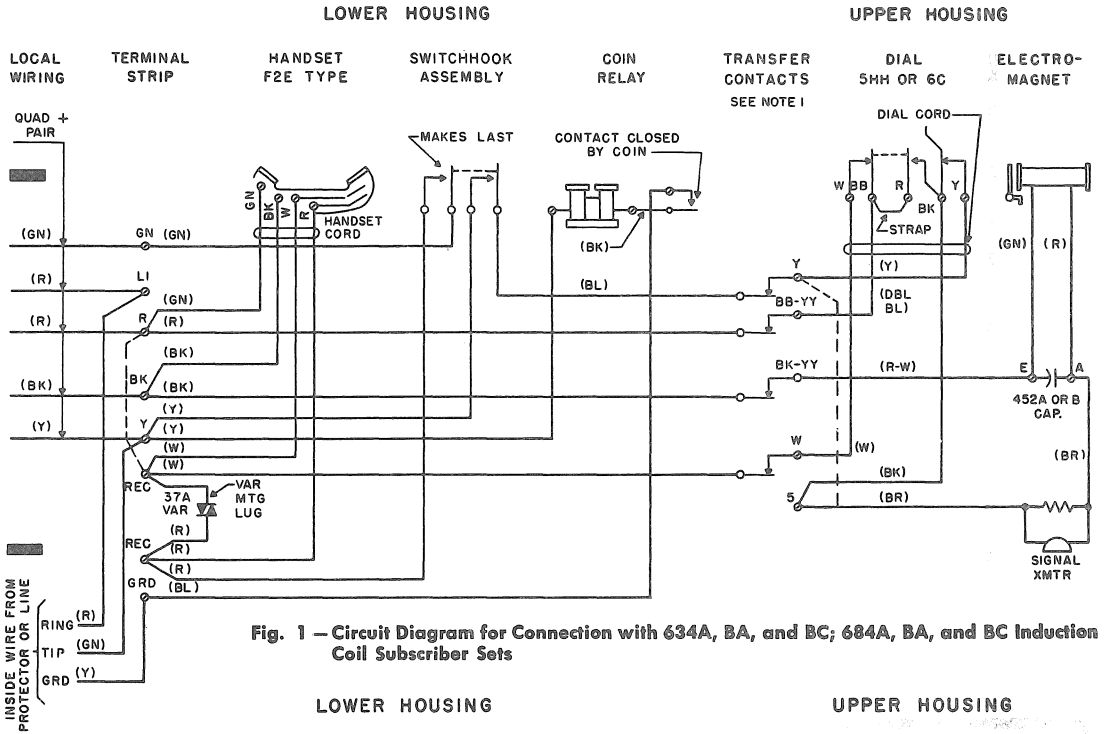
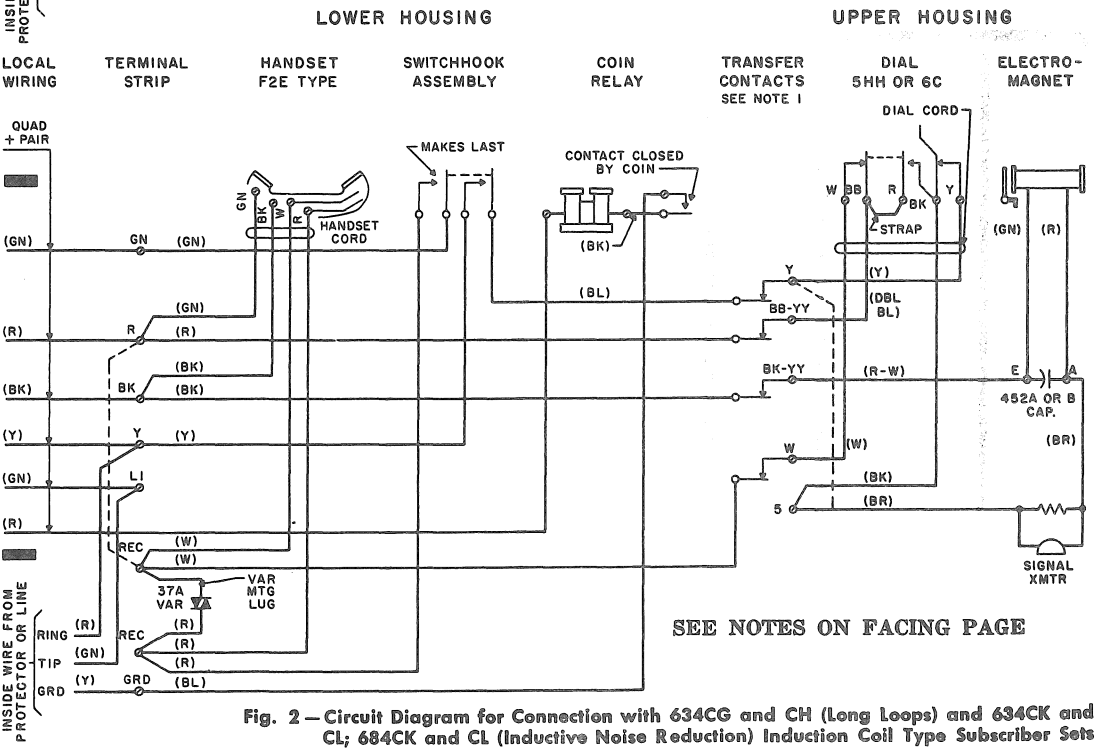


Fig. 1 — Circuit Diagram for Connection with 634A, BA, and BC; 684A, BA, and BC Induction Coil Subscriber Sets



SEE NOTES ON FACING PAGE

Fig. 2 — Circuit Diagram for Connection with 634CG and CH (Long Loops) and 634CK and CL; 684CK and CL (Inductive Noise Reduction) Induction Coil Type Subscriber Sets

SECTION 506-319-403
Issue 1, August 1959
AT&TCo Standard

COIN COLLECTORS—PREPAY
174CS, GS; CT, GT
COMMON BATTERY—CONNECTIONS

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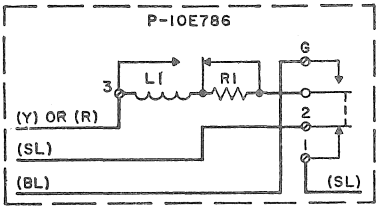

Note 1: The 174CT, GT coin collectors are equipped with P-10E786 coin relays wired as shown above.

Note 2: In some upper housings transfer contacts may be designated Y, BB, YY, W, BK-YY, and X, respectively.

Note 3: Brown gong signal lead or black filter lead may be connected to X terminal on coin chute instead of 5 terminal.

Note 4: Dotted lines in diagram show manual set connections.

Note 5: When a 61R filter is required for radio-frequency suppression, move yellow dial lead from Y upper housing contact spring and connect filter leads as follows:

Yellow lead to filter bracket terminal

Black lead to No. 5 upper housing contact

Red lead to Y upper housing contact.

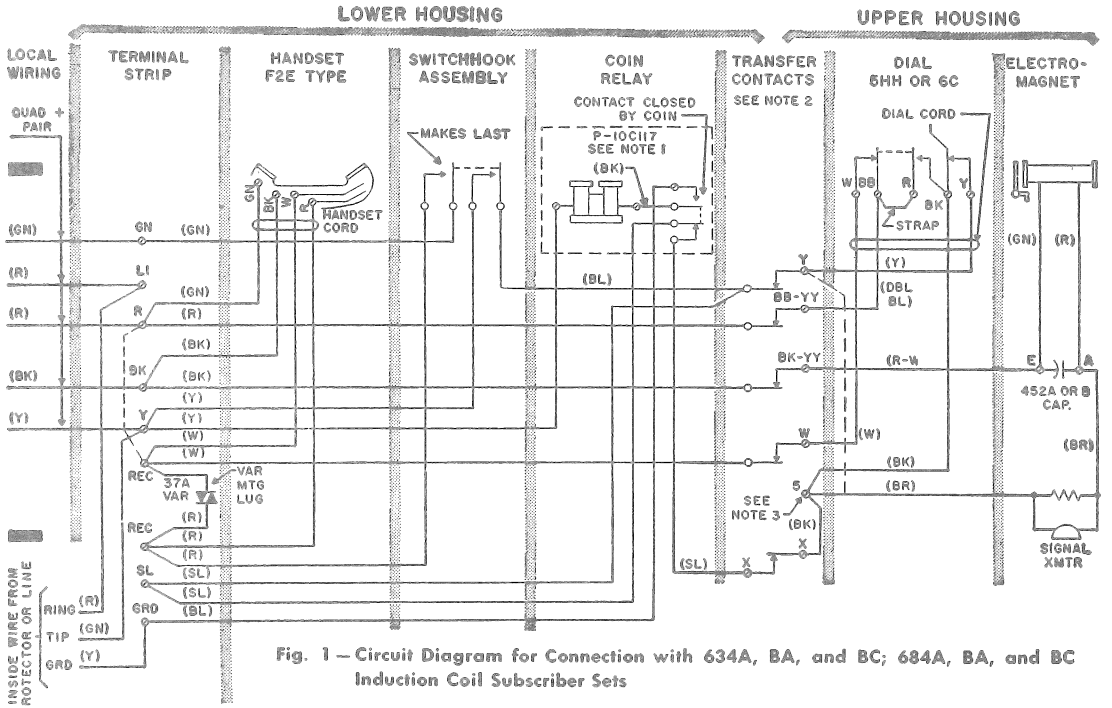

Fig. 1 — Circuit Diagram for Connection with 634A, BA, and BC; 684A, BA, and BC Induction Coil Subscriber Sets

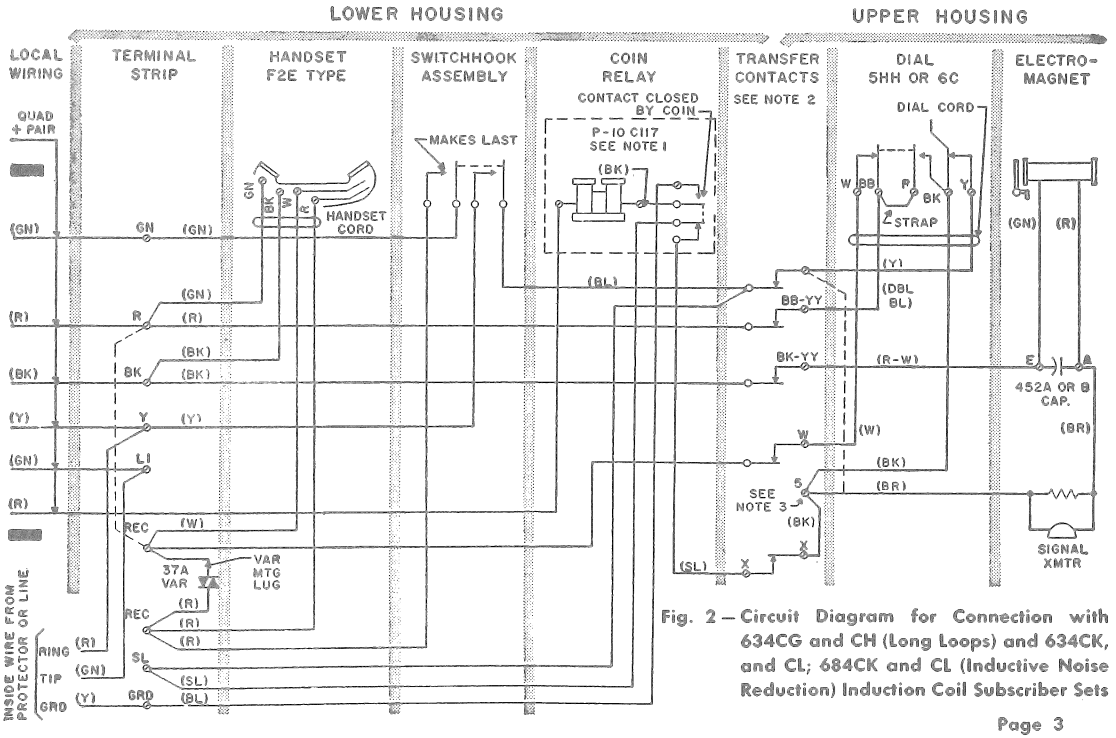

Fig. 2 — Circuit Diagram for Connection with 634CG and CH (Long Loops) and 634CK, and CL; 684CK and CL (Inductive Noise Reduction) Induction Coil Subscriber Sets

COIN COLLECTORS—PREPAY
176C, D, G, H
COMMON BATTERY—CONNECTIONS

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Note 1: In some upper housings, transfer contacts may be designated W, BB, YY, BK-YY, and Y, respectively. Terminal 5 is always furnished.

Note 2: Dotted lines in diagram show manual set connections.

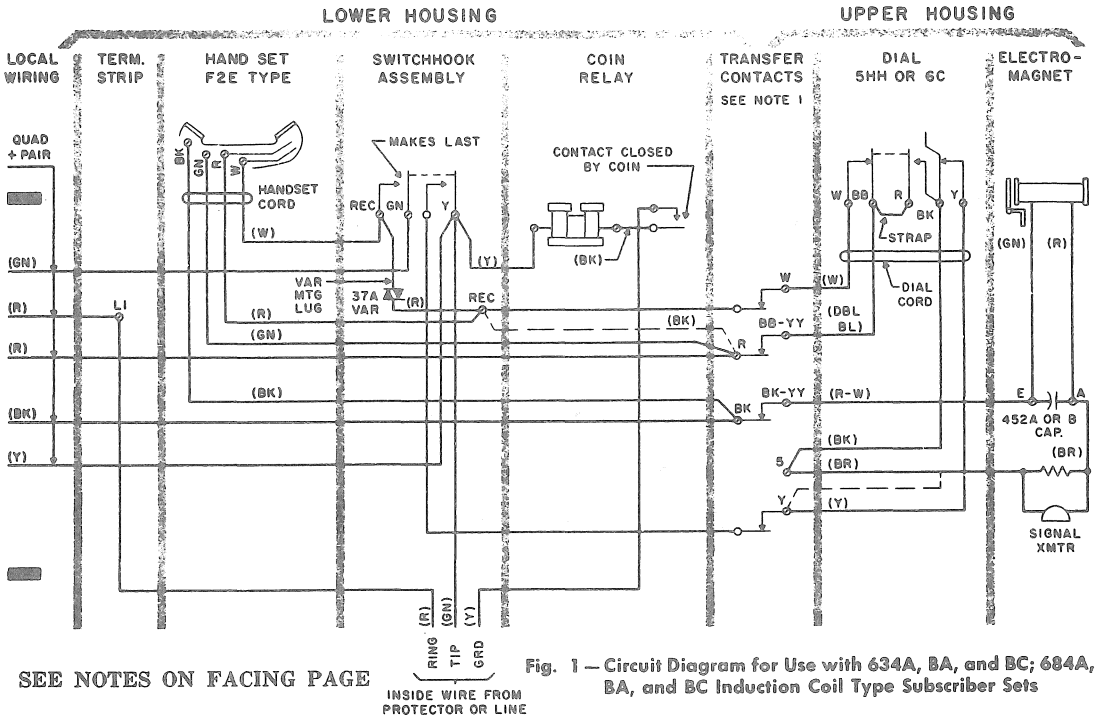
Note 3: When a 61R filter is required for radio frequency suppression, move yellow dial lead from Y upper housing contact spring to filter bracket terminal and connect filter leads as follows:

Yellow lead to filter bracket terminal.

Black lead to No. 5 upper housing contact.

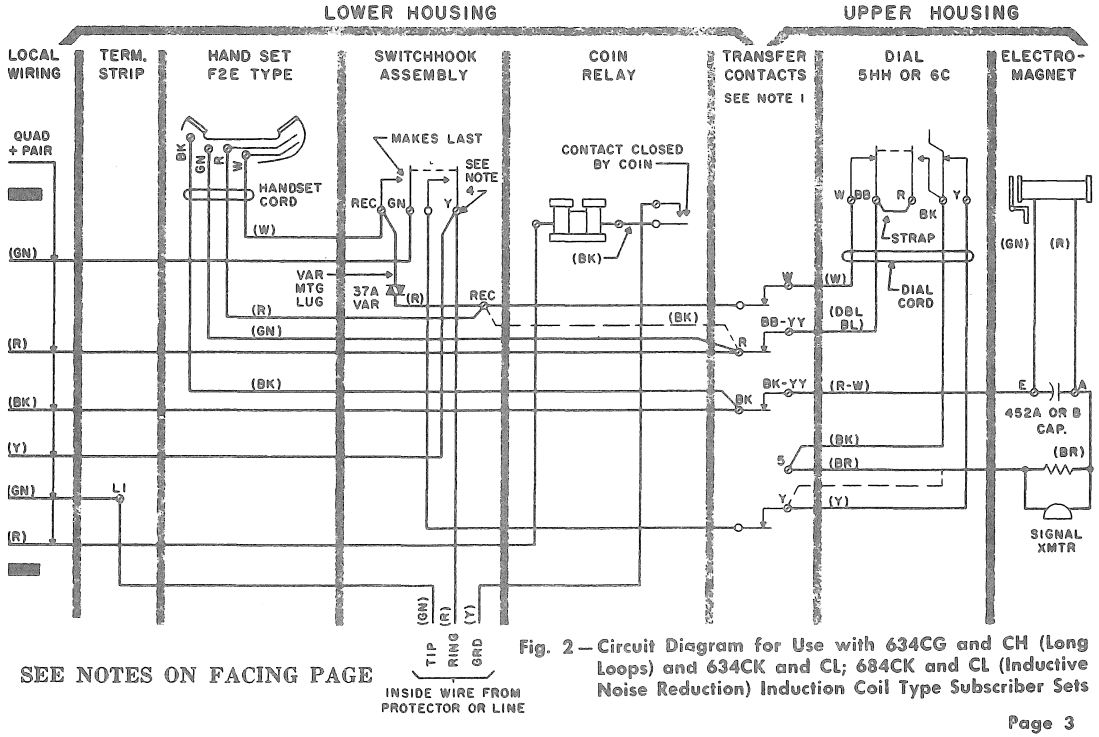
Red lead to Y upper housing contact.

Note 4: When coin collector is connected to 634 CG, CH, CK, CL; 684 CK and CL subscriber sets, disconnect yellow strap between Y terminal on switchhook assembly and coin relay. Tape ends and turn back for future use.



SEE NOTES ON FACING PAGE

Fig. 1 — Circuit Diagram for Use with 634A, BA, and BC; 684A, BA, and BC Induction Coil Type Subscriber Sets



SEE NOTES ON FACING PAGE

Fig. 2 — Circuit Diagram for Use with 634CG and CH (Long Loops) and 634CK and CL; 684CK and CL (Inductive Noise Reduction) Induction Coil Type Subscriber Sets

COIN COLLECTORS—PREPAY
176CS, GS; CT, GT
COMMON BATTERY—CONNECTIONS

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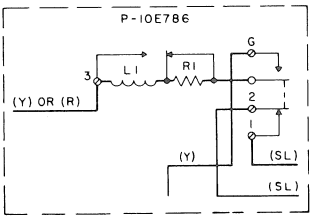

Note 1: 176CT, GT coin collectors are equipped with P-10E786 coin relays wired as shown above.

Note 2: In some upper housings, transfer contacts may be designated W, BB, YY, BK-YY, Y, and X, respectively.

Note 3: Brown gong signal lead or black filter lead may be connected to X terminal on coin chute instead of No. 5 terminal.

Note 4: Dotted lines in diagram show manual set connections.

Note 5: When a 61R filter is required for radio frequency suppression, move yellow dial lead from Y upper housing contact spring to filter bracket terminal and connect filter leads as follows:

Yellow lead to filter bracket terminal.

Black lead to No. 5 upper housing contact.

Red lead to Y upper housing contact.

Note 6: When coin collector is connected to 634 CG, CH, CK, CL; 684 CK and CL subscriber sets, disconnect yellow strap between Y terminal on switchhook assembly and coin relay. Tape ends and turn back for future use.

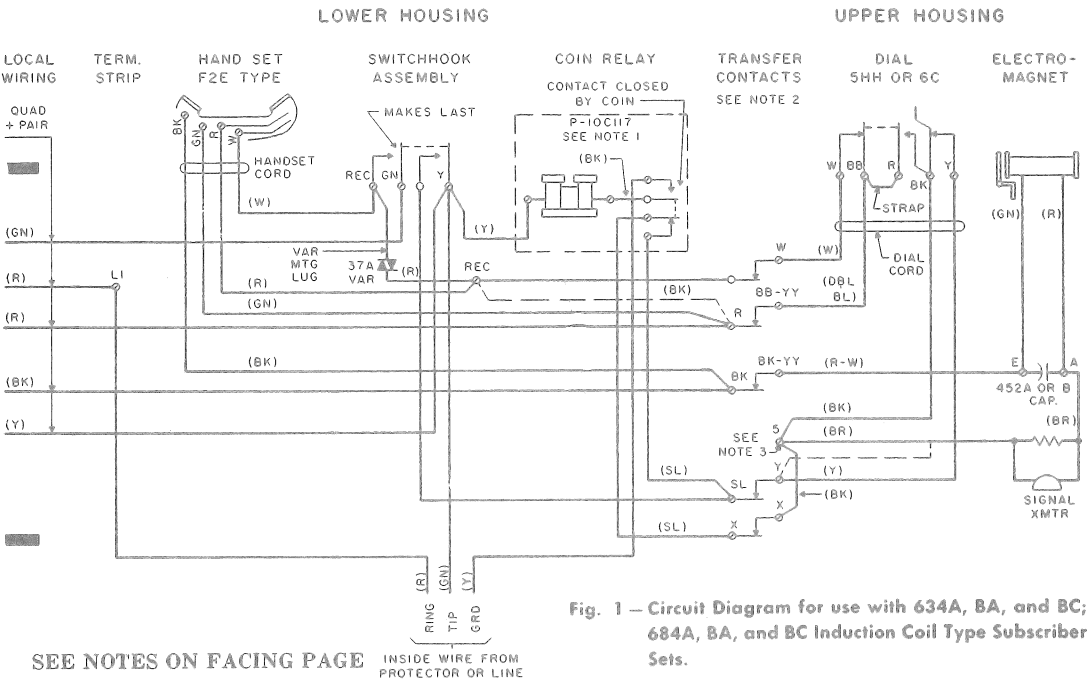

Fig. 1 — Circuit Diagram for use with 634A, BA, and BC; 684A, BA, and BC Induction Coil Type Subscriber Sets.

SEE NOTES ON FACING PAGE

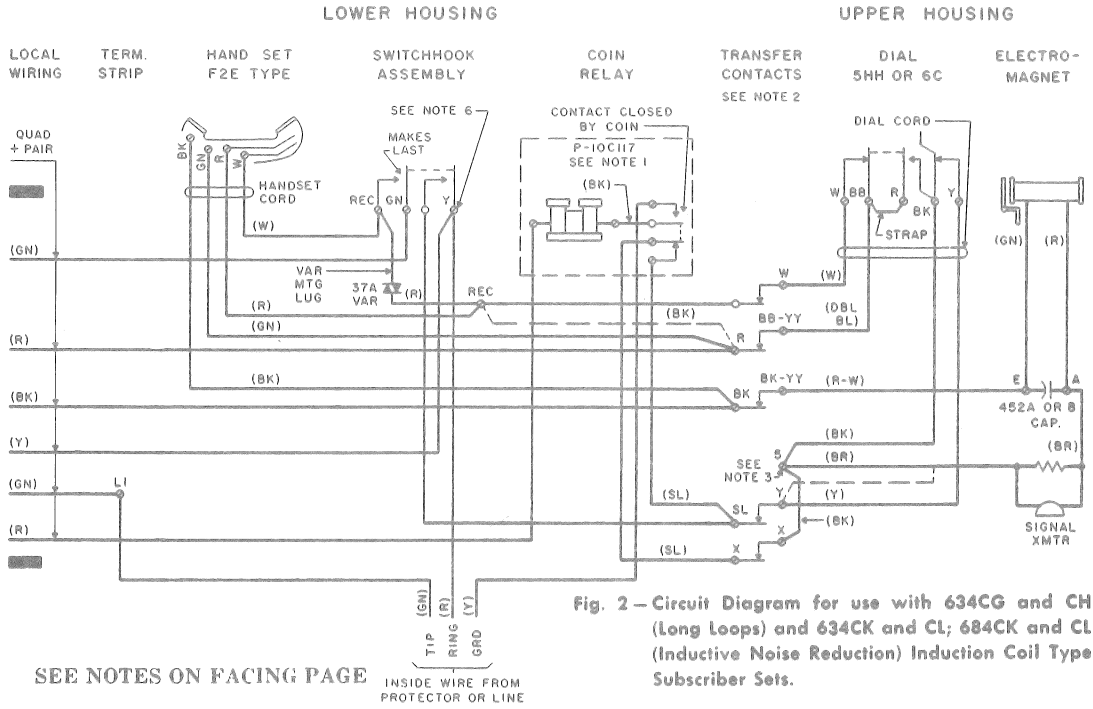

Fig. 2 — Circuit Diagram for use with 634CG and CH (Long Loops) and 634CK and CL; 684CK and CL (Inductive Noise Reduction) Induction Coil Type Subscriber Sets.

SEE NOTES ON FACING PAGE

COIN COLLECTORS—PREPAY

191, 195, 196, 197

(C, D, G, H; CS, DS, GS, HS; CT, DT, GT, HT)

COMMON BATTERY—CONNECTIONS

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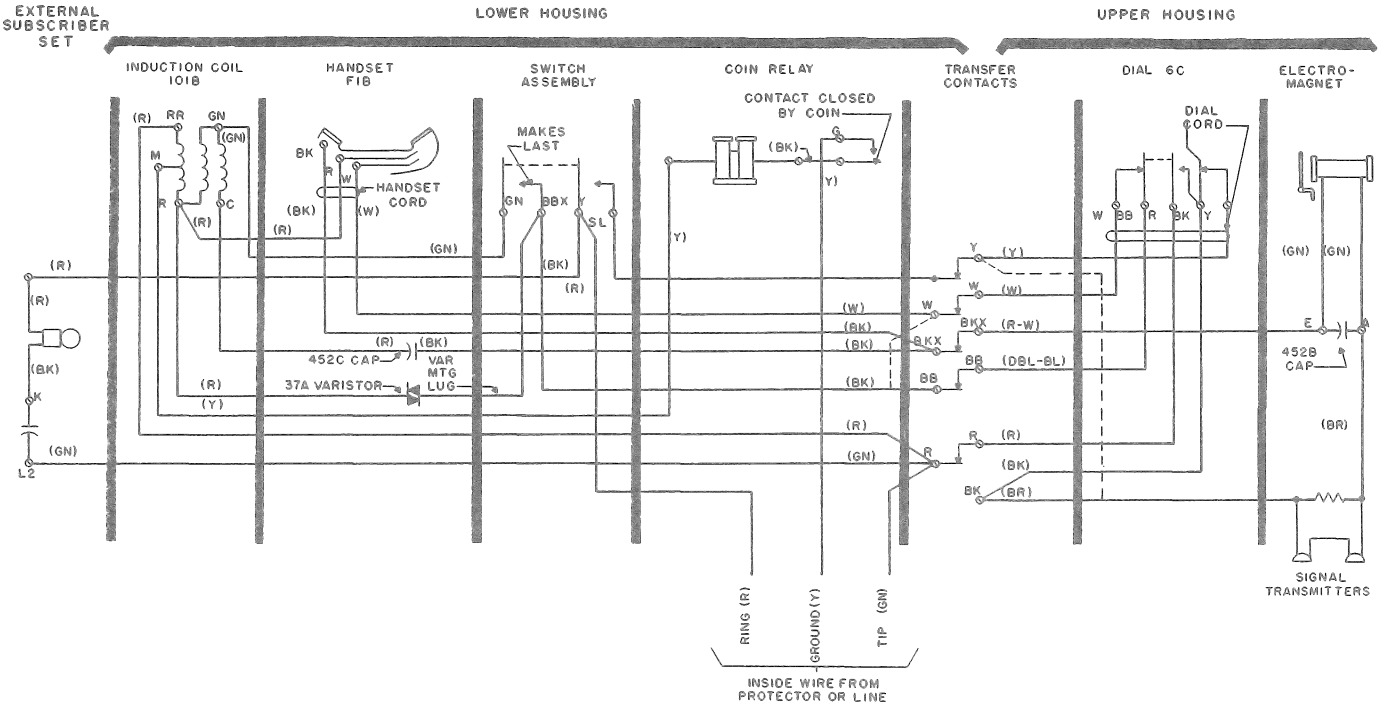


Note 1: Dotted lines in diagram show manual set connections.

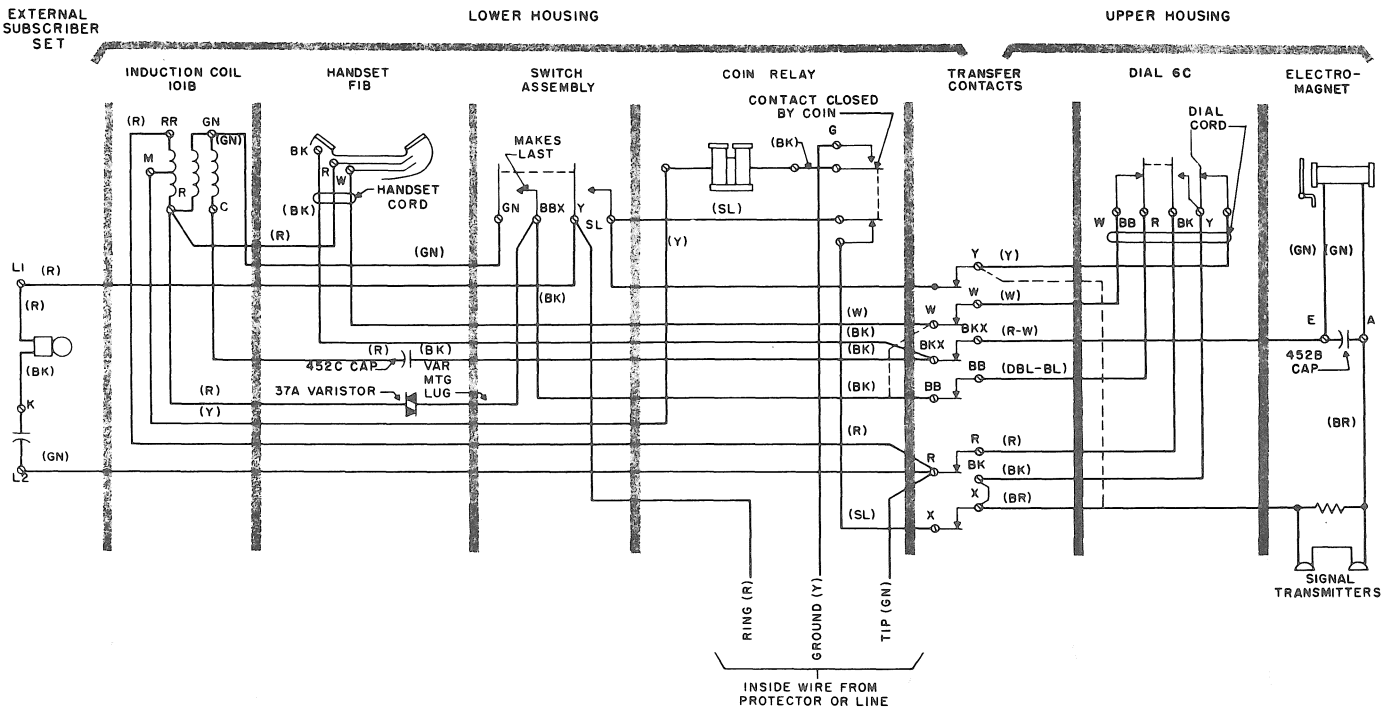
Note 2: When a 61R filter is required for radio frequency suppression, move yellow dial lead from Y upper housing contact spring to filter bracket terminal and connect filter leads as follows:

Yellow lead to filter bracket terminal

Black lead to BK upper housing contact

Red lead to Y upper housing contact.

Fig. 1 — Circuit Diagram of 191, 195, 196, 197 (C, D, G, and H) Coin Collectors for Connection to 531A; 534DE, DF; 584DE, DF; and 687A Subscriber Sets, Ringers Only.



Note 1: Dotted lines in diagram show manual set connections.

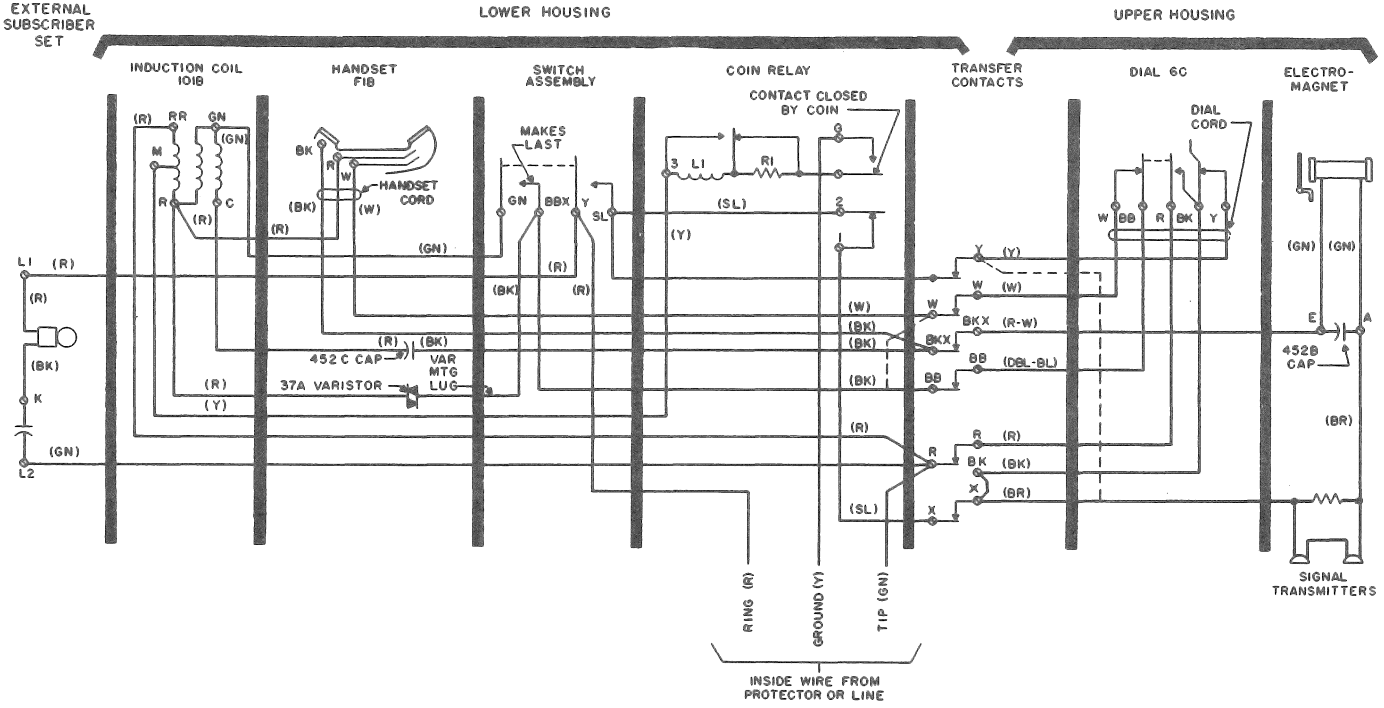
Note 2: When a 61R filter is required for radio frequency suppression, move yellow dial lead from Y upper housing contact spring to filter bracket terminal and connect filter leads as follows:

Yellow lead to filter bracket terminal

Black lead to BK upper housing contact

Red lead to Y upper housing contact.

Fig. 2 — Circuit Diagram of 191, 195, 196, 197 (CS, DS, GS, and HS) Coin Collectors for Connection to 531A; 534DE, DF; 584DE, DF; and 687A Subscriber Sets, Ringers Only.



Note 1: Dotted lines in diagram show manual set connections.

Note 2: When a 61R filter is required for radio frequency suppression, move yellow dial lead from Y upper housing contact spring to filter bracket terminal and connect filter leads as follows:

Yellow lead to filter bracket terminal

Black lead to BK upper housing contact

Red lead to Y upper housing contact.

Fig. 3 — Circuit Diagram of 191, 195, 196, 197 (CT, DT, GT, and HT) Coin Collectors for Connection to 531A; 534DE, DF; 584DE, DF; and 687A Subscriber Sets, Ringers Only.

COIN COLLECTORS—PREPAY
220, 223 (C, D, G, H)
191, 195, 196, 197 (CNS, DNS, GNS, HNS)
COMMON BATTERY—CONNECTIONS

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Note 1: Dotted lines in diagram show manual set connections.

Note 2: New manufactured sets are wired as drawn. On converted 190 series sets, if the BR lead does not reach the BKX terminal, it is terminated on a BK terminal and a black strap connects BK and BKX.

Note 3: When a 61R filter is required for radio frequency suppression, move yellow dial lead from Y upper housing contact spring to filter bracket terminal and connect filter leads as follows:

Yellow lead to filter bracket terminal

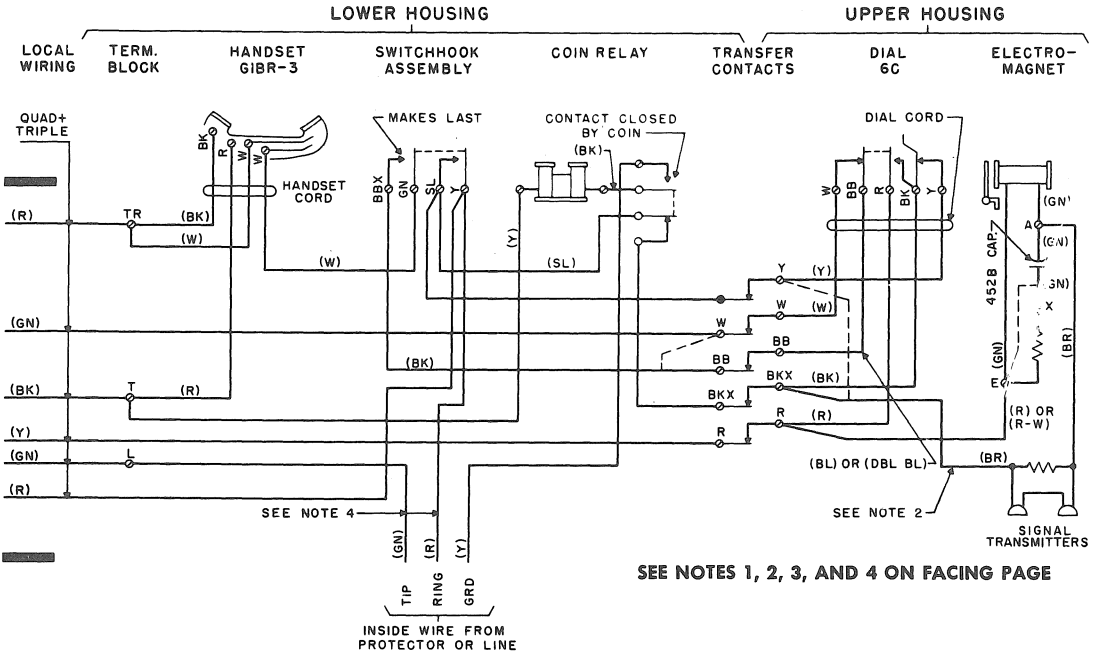
Black lead to BK or BKX upper housing contact

Red lead to Y upper housing contact

Note 4: When coin collector is installed in a KS-14611, List 2 booth or a KS-16705 mounting, the tip and ring line terminations are connected directly to the subscriber set.

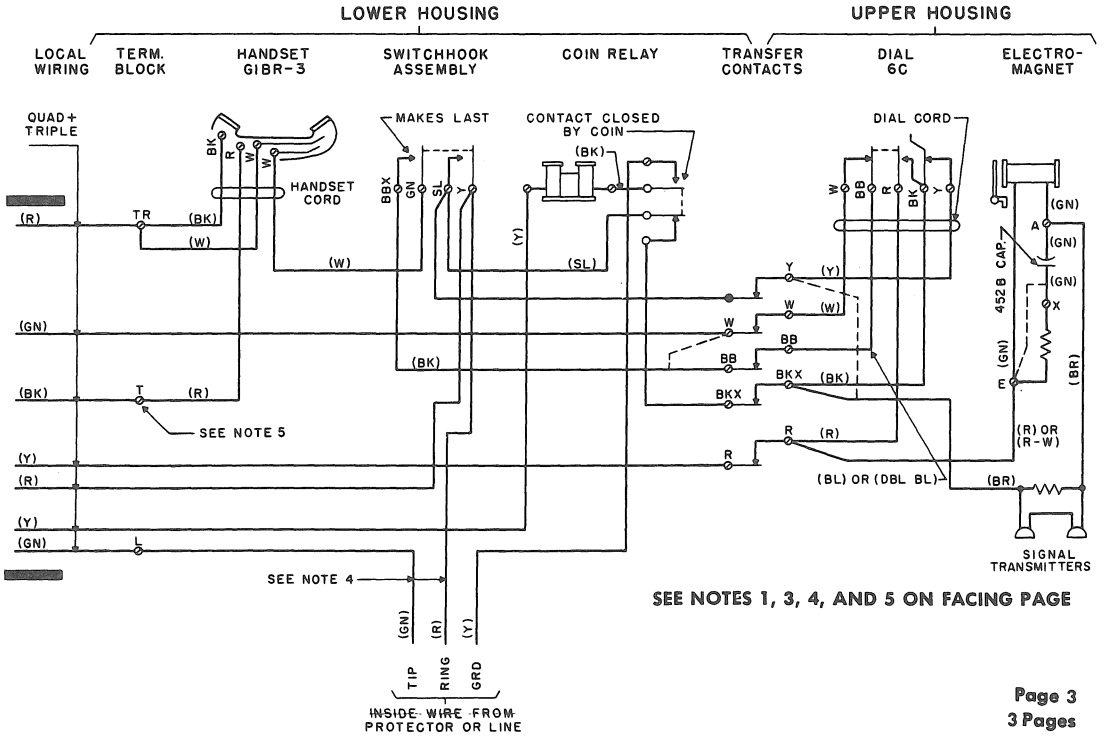
Note 5: New manufactured sets are wired as shown in 1.00. To rearrange for use with 685B subscriber set, disconnect yellow strap between T terminal and coin relay. Tape ends and turn back for future use.

1.00 Circuit diagram for connection with 685A network-type subscriber set.



SEE NOTES 1, 2, 3, AND 4 ON FACING PAGE

2.00 Circuit diagram for connection with 685B network-type subscriber set.



SEE NOTES 1, 3, 4, AND 5 ON FACING PAGE

COIN COLLECTORS—PREPAY

234 (G)

230, 233 (C, D, G, H)

220, 223 (CT, DT, GT, HT)

191, 195, 196, 197 (CNT, DNT, GNT, HNT)

CONNECTIONS

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1.01 This section is reissued to add information on the D5AM cord.

1.01 The D5AM cord replaces the D5AF cord which is rated Manufacture Discontinued.

CIRCUIT DIAGRAM NOTES

( ) Indicates current color code.
[ ] Indicates MD color code.

Note 1: Dotted lines in diagram show manual set connections.

Note 2: New manufactured sets are wired as drawn. On converted 190 series sets, if the BR lead does not reach the BKX terminal, it is terminated on a BK terminal and a black strap connects BK and BKX.

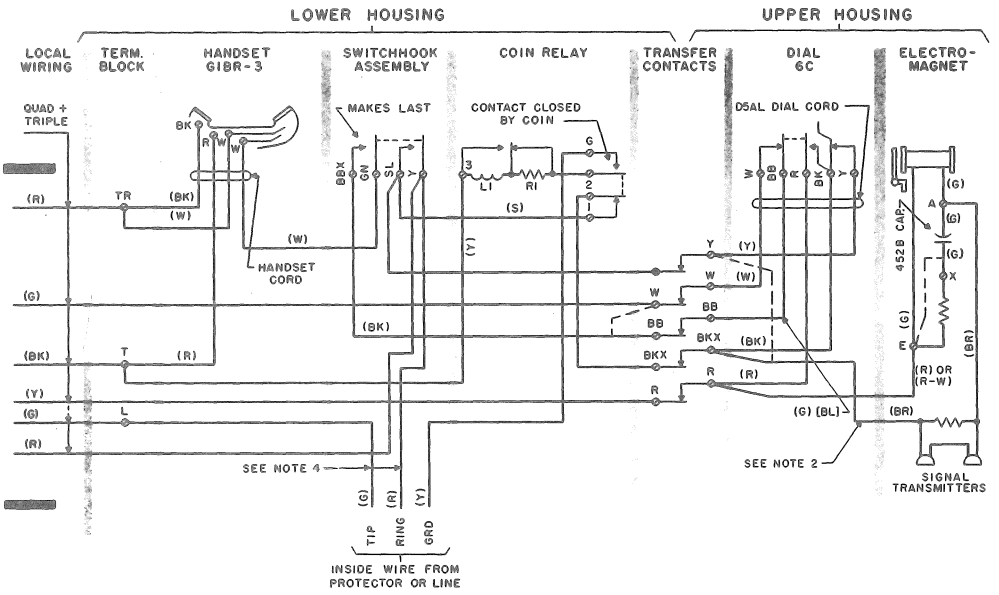
Note 3: When a 61R filter is required for radio frequency suppression, move yellow dial lead from Y upper housing contact spring to filter bracket terminal and connect filter leads as follows:

- Yellow lead to filter bracket terminal.
- Black lead to BK or BKX upper housing contact.
- Red lead to Y upper housing contact.

Note 4: When coin collector is installed in a KS-14611, List 2 booth or a KS-16705 mounting, the tip and ring line terminations are connected directly to the subscriber set.

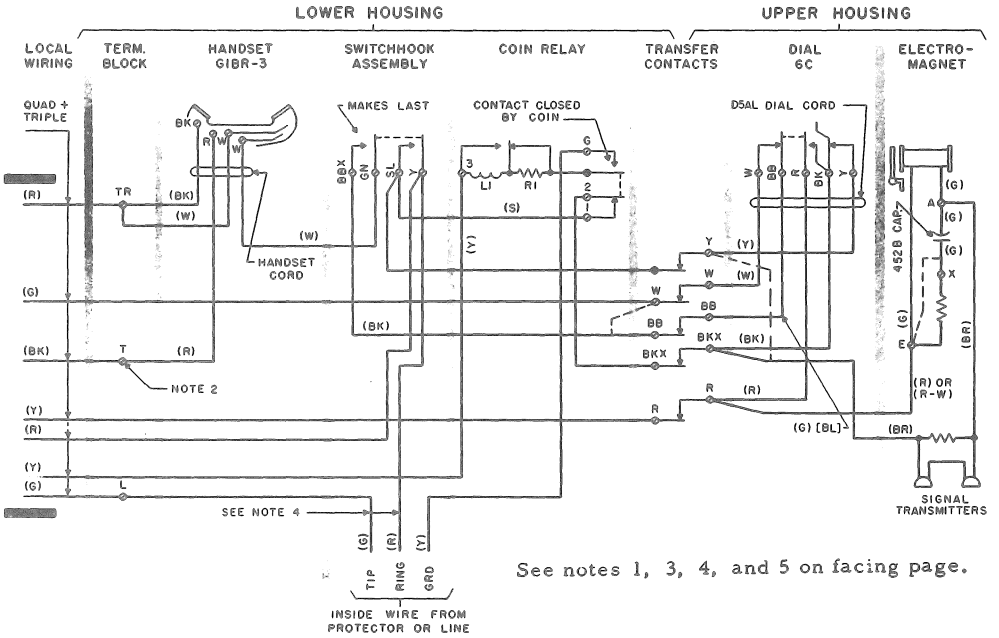
Note 5: New manufactured sets are wired as shown in 2. To rearrange for use with 685B subscriber set, disconnect yellow strap between T terminal and coin relay and wire as shown in 3. Insulate and store yellow strap for future use.

2. Circuit diagram for connection with 685A network-type subscriber set.



See notes 1, 2, 3, and 4 on facing page.

3. Circuit diagram for connection with 685B network-type subscriber set.



See notes 1, 3, 4, and 5 on facing page.

COIN COLLECTOR-1234G

CONNECTIONS

1. GENERAL

1.01 This section is reissued to:

- Delete 685A subscriber set circuit from Fig. 1
- Revise Fig. 1 to make it compatible with Section 506-215-403 (685A subscriber set-connections)

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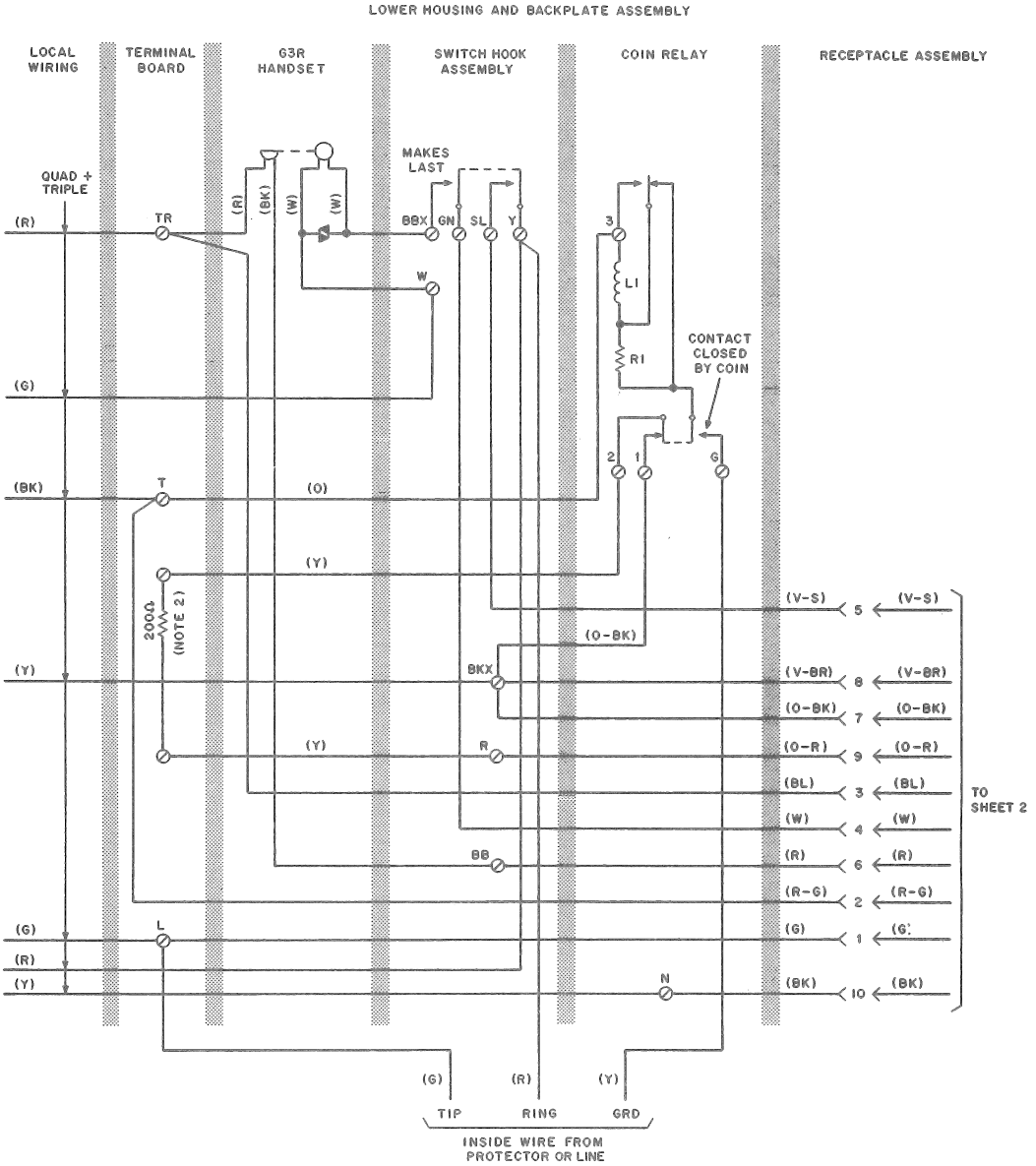
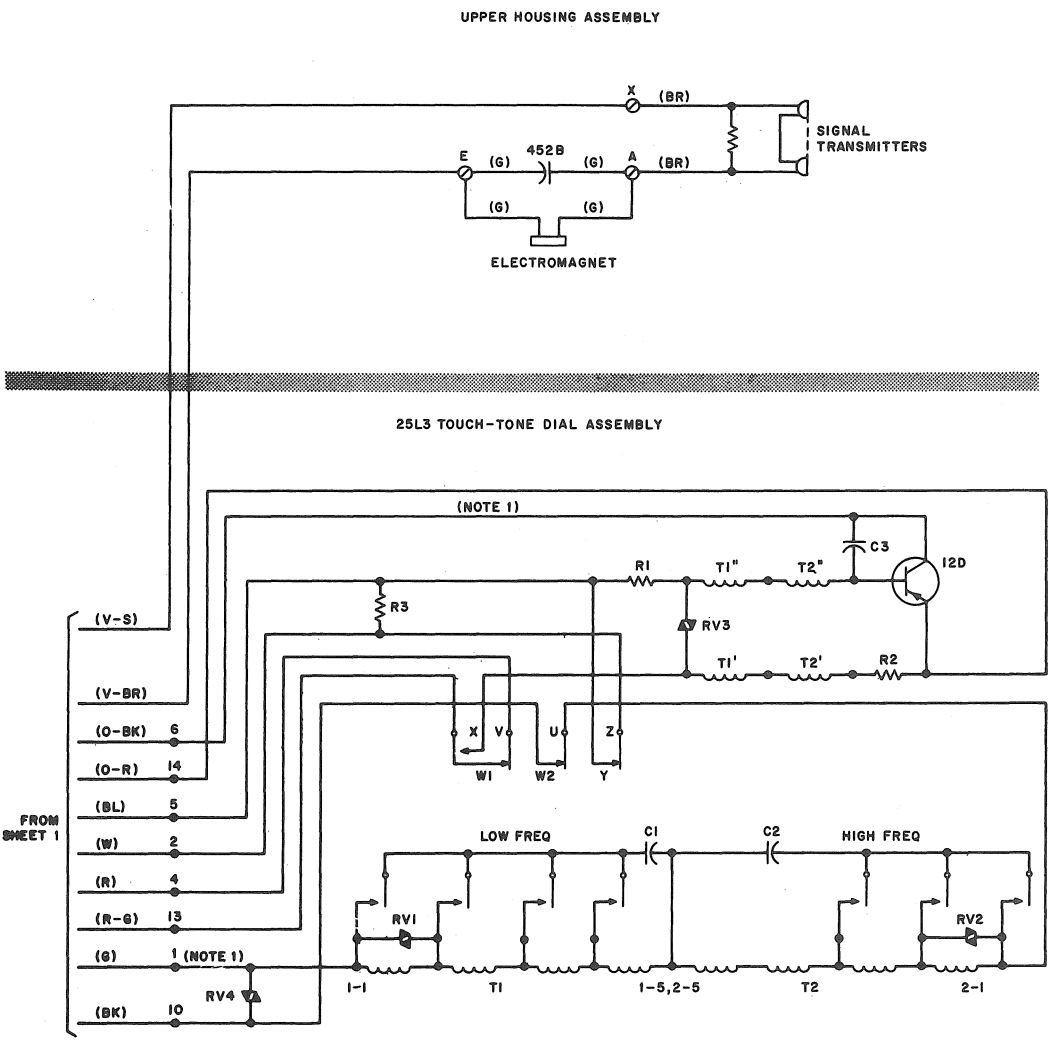


Fig. 1—1234G Coin Collector, Connecting Diagram (Sheet 1)



NOTES:

1. THE 25L3 DIAL WILL FUNCTION ONLY WHEN THE (O-BK) DIAL LEAD IS NEGATIVE AND THE (G) DIAL LEAD IS POSITIVE.
2. IN EARLY PRODUCTION SETS THIS RESISTOR WAS A PART OF THE 685D SUBSET.

Fig. 1—1234G Coin Collector, Connecting Diagram (Sheet 2)

COIN TELEPHONE SETS - 235- AND 1235-TYPE
IDENTIFICATION, INSTALLATION AND MAINTENANCE

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1. GENERAL

1.01 This section is reissued to:

- Revise format
- Add illustrations on 127A and 127B covers
- Provide more detail on installation of return chute assembly
- Provide more detail on backboards

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.02 The 235 and 1235 coin telephones are stainless steel, multislot, panel phones.

1.03 The 235 coin telephone (Fig. 1) and the 1235 coin telephone (Fig. 2) are similar except that the 235 has a rotary dial while the 1235 has a 10-button TOUCH-TONE® dial.

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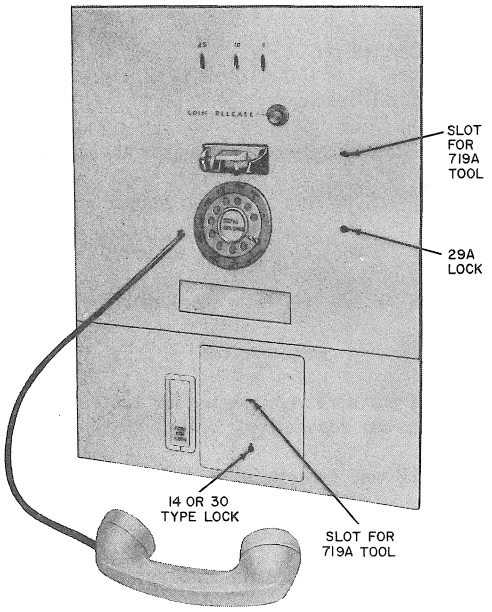


Fig. 1—235-Type Coin Telephone

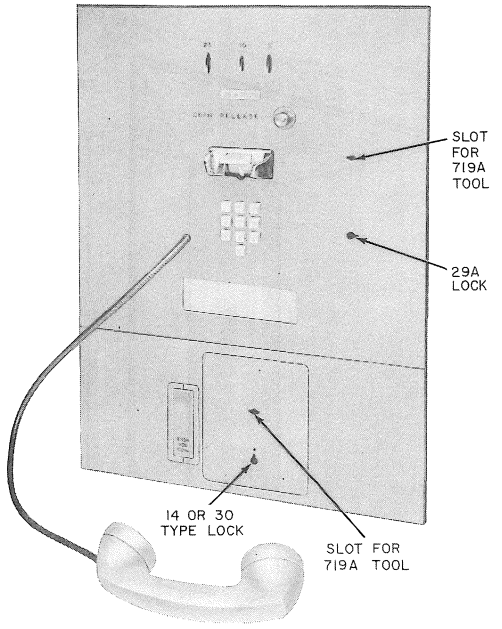


Fig. 2—1235-Type Coin Telephone

1.04 Overall dimensions of the coin telephones are shown in Fig. 3.

Note: The switch hook and handset extend 2-3/4 inches in front of the faceplate.

2. IDENTIFICATION

ORDERING GUIDE

Set, Telephone, 235G or Set, Telephone, 1235G

2.01 ***Replaceable Components for 235G (Fig. 4)***

- P-44E392 door and housing assembly, consisting of:

  P-27E804 door and liner assembly

  P-27E855 housing assembly

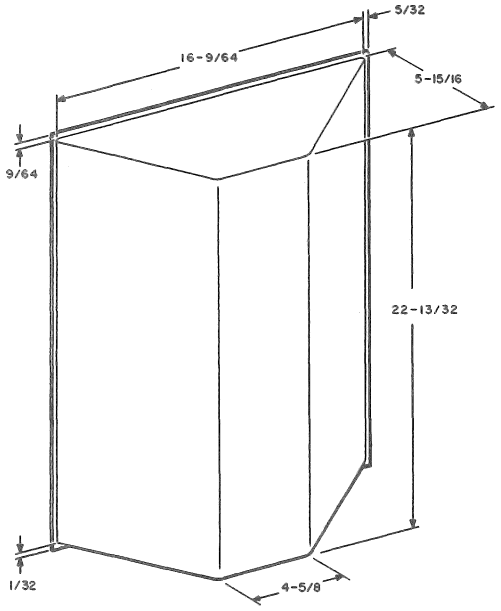
  4A-67 cash compartment door

- P-84D152 rotary dial and housing assembly, consisting of:

  8M-52 dial

  P-87B052 number plate assembly

- P-44E390 coin twister frame assembly
- P-27E847 top coin twister
- G3-52 handset
- C4A ringer
- 4010B network
- P-20A125 gong signal and chute assembly
- P-11E964 coin relay and hopper assembly



NOTES:
1. ALL DIMENSIONS SHOWN ARE IN INCHES.
2. THE SWITCH HOOK AND HANDSET EXTEND 2-3/4 INCHES IN FRONT OF THE FACEPLATE.

Fig. 3—Rear View Showing Dimensions

- P-27E835 return chute assembly
- P-15E491 coin return assembly
- 1D coin receptacle rail

2.02 ***Replaceable Components for 1235G (Fig. 4)***

- P-44E391 door and housing assembly, consisting of:

  P-27E803 door and liner assembly

  P-27E855 housing assembly

  4A-67 cash compartment door

- P-27E820 TOUCH-TONE dial and housing assembly, consisting of:

  25E3 dial

- P-44E390 coin twister frame assembly
- P-27E847 top coin twister
- G3-52 handset
- C4A ringer
- 4010B network
- P-20A125 gong signal and chute assembly
- P-11E964 coin relay and hopper assembly
- P-27E835 return chute assembly
- P-15E491 coin return assembly
- 1D coin receptacle rail

2.03 ***Associated Apparatus for 235G or 1235G (order separately)***

- 1B coin receptacle
- 1D or 1E coin receptacle cover
- 29A lock (door and liner assembly)*
- 14- or 30-type lock (cash compartment)*
- 719A tool (Fig. 5)
- P11C test cord (Fig. 6) (used for testing with door and liner assembly open)
- 127A or 127B cover (Fig. 7) (for use over the coin telephone in installations not flush mounted)

*Order must specify responsible person to whom locks and keys are to be sent.

DESIGN FEATURES

(a) Used only with dial prepay coin trunks

(b) All parts are contained in a high-security steel housing which has the following features:

- Door and liner assembly has three locking points actuated by a 719A tool.

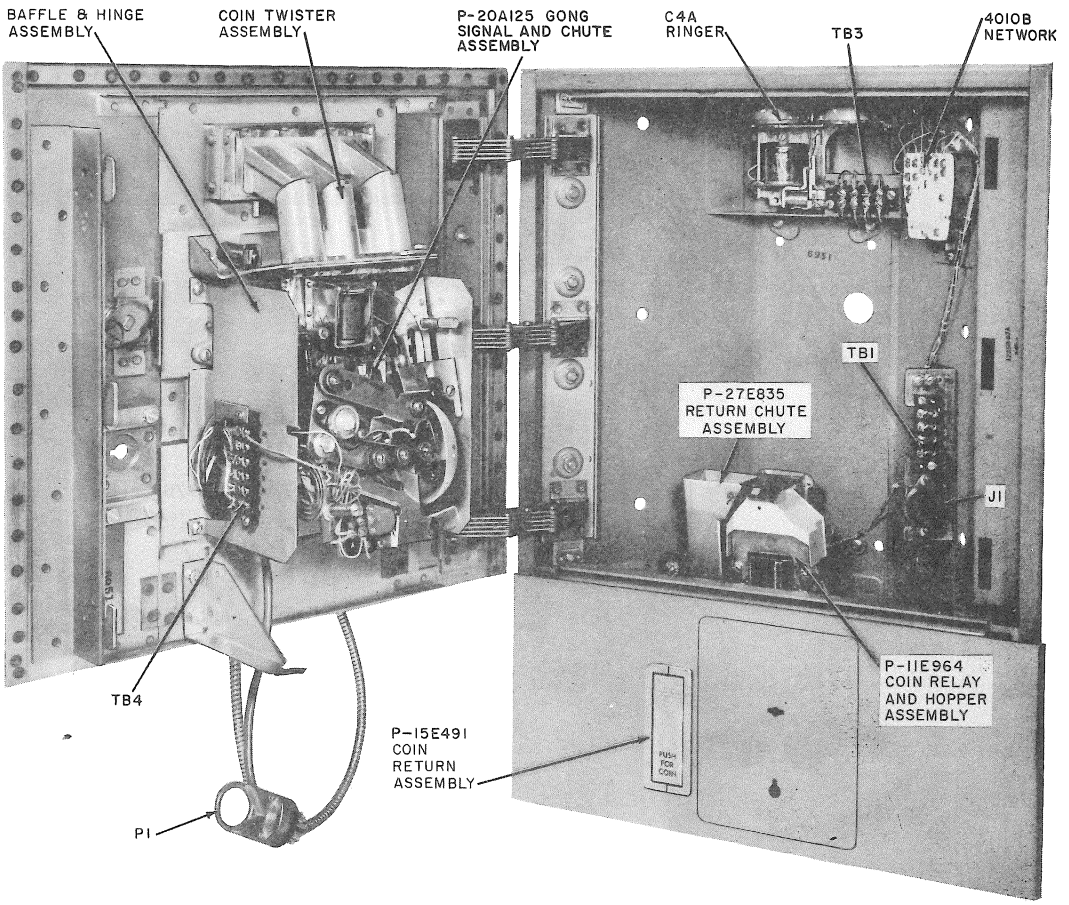


Fig. 4—235- or 1235-Type Coin Telephone—Interior

- Door and liner assembly is secured by 29A lock and 719A tool.
- Cash compartment door has five locking points; three are actuated by a 719A tool and two are stationary.
- Cash compartment door is secured by 14- or 30-type lock and 719A tool.

(c) Provisions are made for use of four security studs.

(d) Coin return is designed to deter stuffing.

(e) Has transmission characteristics equivalent to 500/1500-type coin telephone.

(f) Arranged to accept 1B coin receptacle.

(g) 1D or 1E coin receptacle cover may be used.

3. INSTALLATION

3.01 The 235G or 1235G coin telephone may be installed in the following:

- KS-19206 curved door booth

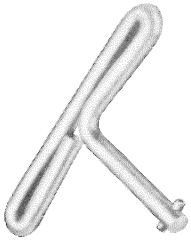


Fig. 5—719A Tool

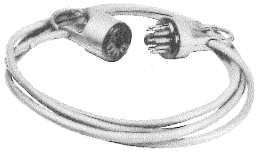


Fig. 6—P11C Test Cord

- KS-19340 wood booth
- KS-19442 glass deluxe booth
- KS-19426 mounting
- A wall that will allow the telephone to be recessed

3.02 Consider the following:

- Accessibility to customer
- Sufficient light

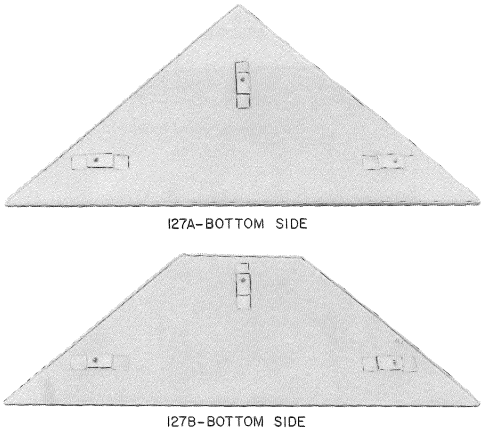


Fig. 7—127A and 127B Covers

- Privacy
- Absence of noise and vibration
- Absence of grease, smoke, or dust
- Clearance from oily or dirty surfaces
- Clearance from stoves or heaters
- Clearance for door swing
- Clearance from moving machinery, piled merchandise, or narrow aisles
- Mounting surfaces—Consult a supervisor before locating coin telephone on finishes that would be expensive to repair if the set is removed.
- Inductive effects—locate telephone and associated wiring at least 6 inches from neon fixtures, transformers, or other interference—causing equipment.

SECURITY STUDS

3.03 Refer to Fig. 8 for mounting screw and security stud locations in the coin telephone.

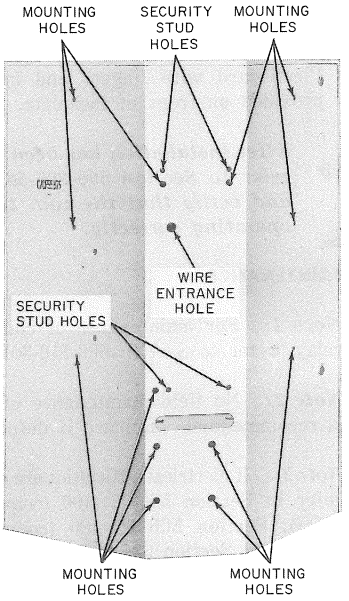


Fig. 8—Location of Mounting, Security Stud, and Wire Entrance Holes

3.04 Refer to Section 506-110-103 for use of security studs.

Note: Security studs and mounting screws are not furnished and must be ordered separately.

WALL APPLICATIONS

Flush Wall Mounting

3.05 When installing the coin telephone in a wall, observe the dimensions shown in Fig. 3 before cutting a hole.

Ensure that the lip of the faceplate overlaps the wall around the hole. If security studs are used, top of hole must be enlarged approximately 1/2-inch and a false panel provided to close the extra opening.

KS-19426 Mounting

3.06 The KS-19426 mounting can be installed on a flat wall with the use of a KS-19426, List 5 support. See Section 508-470-100.

3.07 The KS-19426 mounting can be installed in a corner with the use of a KS-19426, List 4 support. See Section 508-470-100.

3.08 Secure the coin telephone to the KS-19426 mounting as directed in Section 508-470-200, using four P-12E798 security studs and 1/4-20 by 5/8 RHM screws as required.

BOOTH APPLICATIONS

KS-19206 Curved Door Booth

3.09 Use KS-19206, List 7 coin telephone installation kit. Refer to Section 508-115-200.

3.10 Use four P-10E070 security studs and 1/4-20 by 5/8 RHM screws as required.

3.11 Install a 127B cover over the coin telephone using three No. 8-32 by 3/16 RHM screws. The cover must be ordered separately; screws are furnished with cover.

KS-19340 Wood Booth

3.12 Use KS-19340, List 54 backboard, four P-10E070 security studs, and 1/4-20 by 5/8 RHM screws as required. Refer to Section 508-111-200.

3.13 Install a 127A cover over the coin telephone using three No. 8-32 by 3/16 RHM screws. The cover must be ordered separately; screws are furnished with cover.

KS-19442 Glass Deluxe Booth

3.14 Use KS-19340, List 54 backboard, four P-10E070 security studs, and 1/4-20 by5/8 RHM screws as required. Refer to Section 508-231-100.

3.15 Repeat step 3.13.

MOUNTING APPLICATIONS

KS-19426 Walk-Up, Drive-Up Mounting

3.16 Use backboard furnished with KS-19426, List 1 housing, four P-12E798 security studs, and 1/4-20 by 5/8 RHM screws as required. Refer to Section 508-470-200.

WIRING

3.17 Select and place wire in accordance with sections covering inside wiring. Wire all coin telephones with triple conductor station wire to provide individual ground for each station. The ground connection for this conductor must be the same one used for signaling ground.

3.18 Feed inside wire through wire entrance hole (Fig. 8) and connect to terminals T, R, and GRD on TB1. Dress wire away from door.

3.19 Conceal wiring near telephone. If this is not possible, use approved moulding or tubing. If moulding or tubing is not used, GS-type wire must be taped with friction tape. JKT wire need not be taped.

3.20 Locate any terminating apparatus, such as protectors, connecting blocks, etc, where they will be inaccessible to person using coin telephone.

INSTRUCTION CARD

Note: Instruction cards are not furnished and must be procured locally.

3.21 To install card:

(1) Insert in faceplate.

(2) Push up with fingers.

(3) Snap card in place.

(4) Ensure that card is seated properly in slot.

3.22 To remove card:

(1) Push up with fingers.

(2) Pry top out with small screwdriver or equivalent.

NUMBER CARD (1235G)

Note: The number card is furnished locally.

3.23 Pinch card with fingers and insert in slot provided on front of faceplate.

After installation has been completed, refer to Section 506-900-501 (Booklet) and verify that the coin telephone is operating correctly.

4. MAINTENANCE

Note 1: For maintenance of chute and coin relay, refer to Section 506-110-301.

Note 2: No field maintenance of either dial is recommended. Replace if defective.

Note 3: If electrical difficulties are encountered, refer to Section 506-321-400 (connections for 235G), Section 506-321-420 (connections for 1235G), or Section 506-900-501 (Booklet) (coin telephone maintenance checks).

Note 4: A P11C test cord (Fig. 6) is used to connect plug (P1) to jack (J1) which allows the set to be operative while visual inspection is made.

DOOR AND LINER ASSEMBLY

4.01 To open door:

(1) Unlock 29A lock (Fig. 1 or 2).

(2) Insert 719A tool into slot, turn 1/4-turn clockwise, and release locking mechanism.

Note: Do not open door fully until plug (P1) is disconnected (Fig. 4).

(3) Open door approximately 3 inches and disconnect P1 from J1.

(4) Door can now be fully opened.

Coin Twister Assembly

4.02 To remove coin twister assembly:

(1) Loosen screws in middle of twister assembly (Fig. 9).

(2) Lift P-27E847 coin twister (top section) up and out.

(3) Remove screws and nuts holding P-44E390 coin twister frame assembly (Fig. 9).

(4) Lift frame assembly up and off.

(5) Install,using reverse procedure.

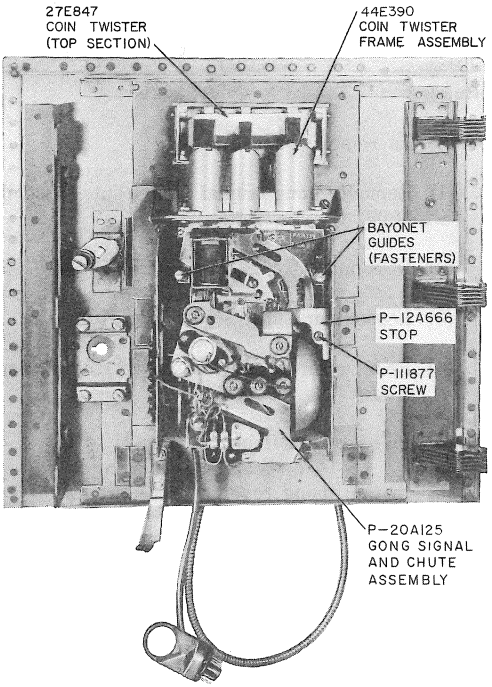


Fig. 9—Rear View of Door and Liner Assembly

Gong Signal and Chute Assembly

4.03 To remove gong signal and chute assembly:

(1) Disconnect wires as follows:

235G		1235G	
WIRE COLOR	DISCONNECT FROM TERM.	WIRE COLOR	DISCONNECT FROM TERM.
G	A of chute assem.	G	A of chute assem.
G	X of chute assem.	G	E of chute assem.
Y	E of chute assem.	Y	E of chute assem.
BR	BR of TB4	BR	BR of TB4

(2) Remove P-111877 screw and P-12A666 stop (Fig. 9)

(3) Loosen P-25E445 screw in lower left corner of chute assembly (Fig. 10). Exercise care not to loose P-12A681 spring located under screw head.

(4) Loosen two P-11E183 bayonet guides on chute assembly (Fig. 9).

(5) Lift gong signal and chute assembly off.

(6) Install, using reverse procedure.

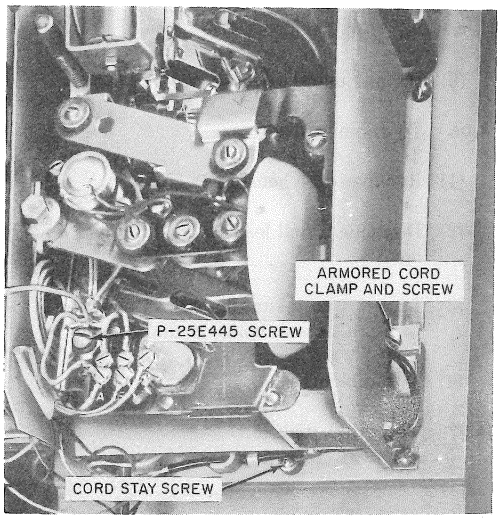


Fig. 10—Location of Cord Stay Screw and Cord Clamp

Baffle and Hinge Assembly

4.04 To remove baffle and hinge assembly (Fig. 4):

(1) Disconnect all wires from TB4

(2) Remove retainer ring from rear of the coin release shaft.

(3) Remove four P-181641 screws, four P-285080 lockwashers and lift baffle and hinge assembly off.

(4) Install, using reverse procedure.

Dial and Housing Assembly

4.05 To remove dial housing:

(1) Remove coin twister assembly (4.02).

(2) Remove gong signal and chute assembly (4.03).

(3) Remove baffle and hinge assembly (4.04).

(4) Remove four mounting screws in dial housing.

(5) Lift dial housing off.

Note: Handset cord will pull through cover to enable access to dial without disconnecting cord.

(6) Install, using reverse procedure.

4.06 To remove dial:

(1) Remove dial housing (4.05).

(2) Disconnect dial leads from TB2 (dial terminal board).

(3) Loosen two mounting screws on sides of dial through access holes in dial housing.

(4) Lift dial off.

4.07 To install dial:

(1) Use reverse procedure in 4.06 and make connections as follows:

235G		1235G	
WIRE COLOR	CONNECT TO	WIRE COLOR	CONNECT TO
Y	TB2-1	G	TB2-1
W	TB2-2	W	TB2-2
G	TB2-2	BL	TB2-3
BL	TB2-3	O-BK	TB2-4
W	TB2-9	R	TB2-5
Y	TB2-11	R-G	TB2-6
		O-R	TB2-8
		BK	TB2-11

Handset

4.08 To remove handset:

(1) Remove gong signal and chute assembly (4.03).

(2) Disconnect handset leads from TB4.

(3) Loosen cord stay screw (Fig. 10).

(4) Remove screw and cord clamp from armored cord.

(5) Pull cord out front of cover.

(6) Install, using reverse procedure.

HOUSING ASSEMBLY

Ringer

4.09 To remove ringer:

(1) Disconnect ringer leads from TB3.

(2) Remove two screws.

(3) Lift ringer up and off.

4.10 To install ringer:

(1) Mount ringer in place and secure with two screws.

(2) Connect ringer leads as follows:

WIRE COLOR	CONNECT TO
BK	TB3-R
R	TB3-T
S-R	TB3-A
S	TB3-K

Return Chute Assembly

4.11 To remove return chute assembly (Fig. 11):

(1) Loosen mounting screw.

(2) Lift assembly up and out.

Note: It may be necessary to remove P-28E453 clip.

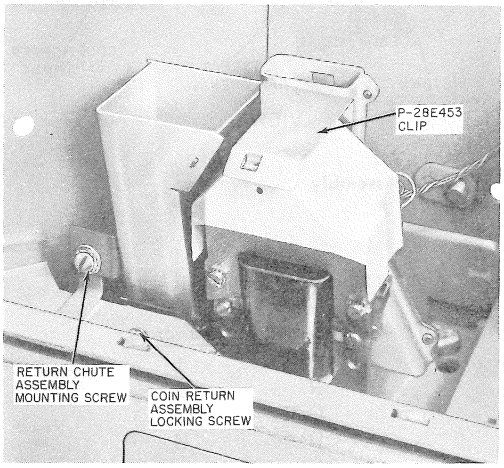


Fig. 11—Coin Relay and Return Chute Assembly

4.12 To install return chute assembly:

(1) Slide the assembly in and down until it is properly seated.

(2) Tighten the mounting screw.

If the return chute is not installed properly, there can be a gap between the return chute and the hopper assembly large enough to allow coins to drop into the housing. Refer to Fig. 12 for this gap.

This gap may be observed by placing a light down the opening in the return chute, tripping the relay and hopper assembly to the reject position, and looking down the opening of the hopper assembly. Fig. 13 is a bird's eye view of what can be observed.

If this gap exists, loosen the mounting screw and reposition the return chute. Check again with a light (Fig. 13) and tighten screw when proper alignment is obtained.

Coin Relay

4.13 To remove coin relay (Fig. 11):

(1) Remove return chute assembly (4.11).

(2) Remove P-28E453 clip and dust cover.

(3) Disconnect leads from coin relay.

(4) Remove four screws and remove coin relay.

4.14 To install coin relay:

(1) Place coin relay in position and secure with the four screws removed in 4.13 (4).

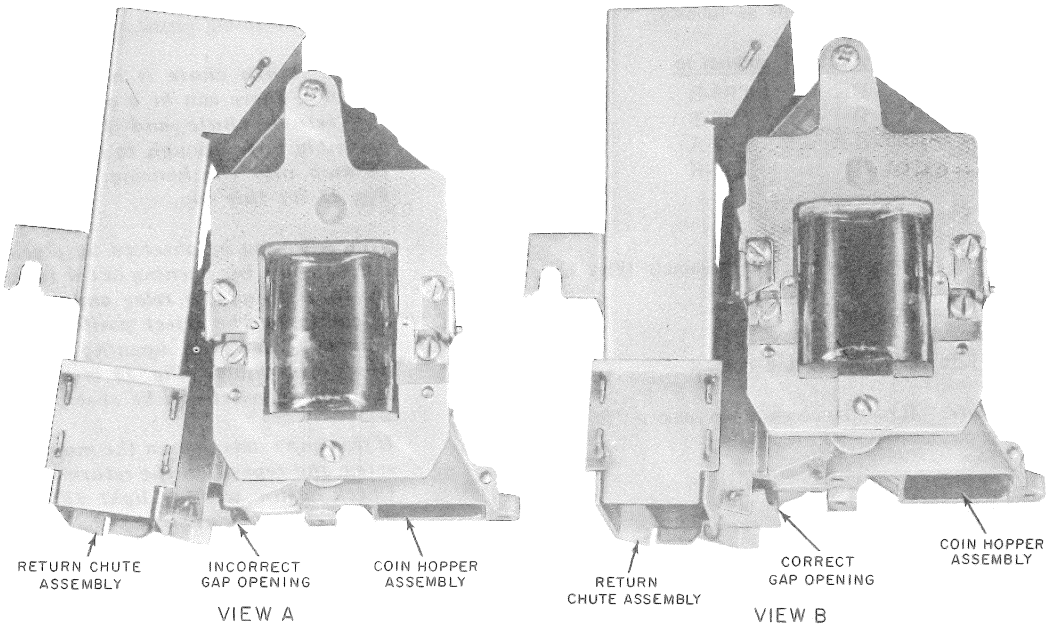


Fig. 12—Alignment of Return Chute Assembly

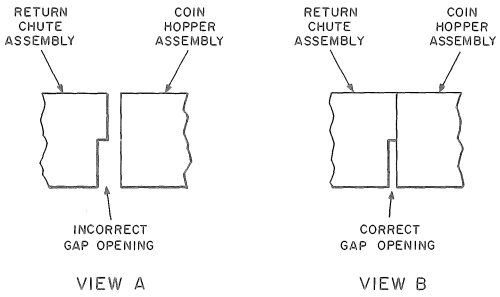


Fig. 13—Relative Position of Return Chute Assembly and Coin Hopper Assembly As Viewed Down Hopper Throat

(2) Connect leads to coin relay as follows:

WIRE COLOR	CONNECT TO
R	1
R	2
G-Y	3
O	G

(3) Install dust cover and P-28E453 clip (Fig. 11).

(4) Install return chute assembly (4.12).

Coin Return Assembly

4.15 To remove coin return assembly:

(1) Remove return chute assembly (4.11).

(2) Remove coin return assembly locking screw (Fig.11).

(3) Insert finger in coin return and tilt top forward.

(4) Lift coin return. Pull coin return assembly out and up.

4.16 To install coin return assembly:

(1) Tilt top of coin return assembly toward set.

(2) Push coin return assembly into set.

(3) Push in and down on bottom of coin return assembly until flush with front of housing.

(4) Install coin return assembly locking screw. Tighten screw only enough to hold return assembly in place. Further tightening will bend screw.

(5) Install return chute assembly (4.12).

Coin Hopper

4.17 The coin hopper cannot be removed without removing 4A door and coin receptacle. If it becomes necessary to remove the coin hopper in the field, remove the 4A door and coin receptacle per local regulations.

SECTION 506-321-400
Issue 1, May 1964
AT&TCo Standard

COIN TELEPHONE SETS—235G
CONNECTIONS

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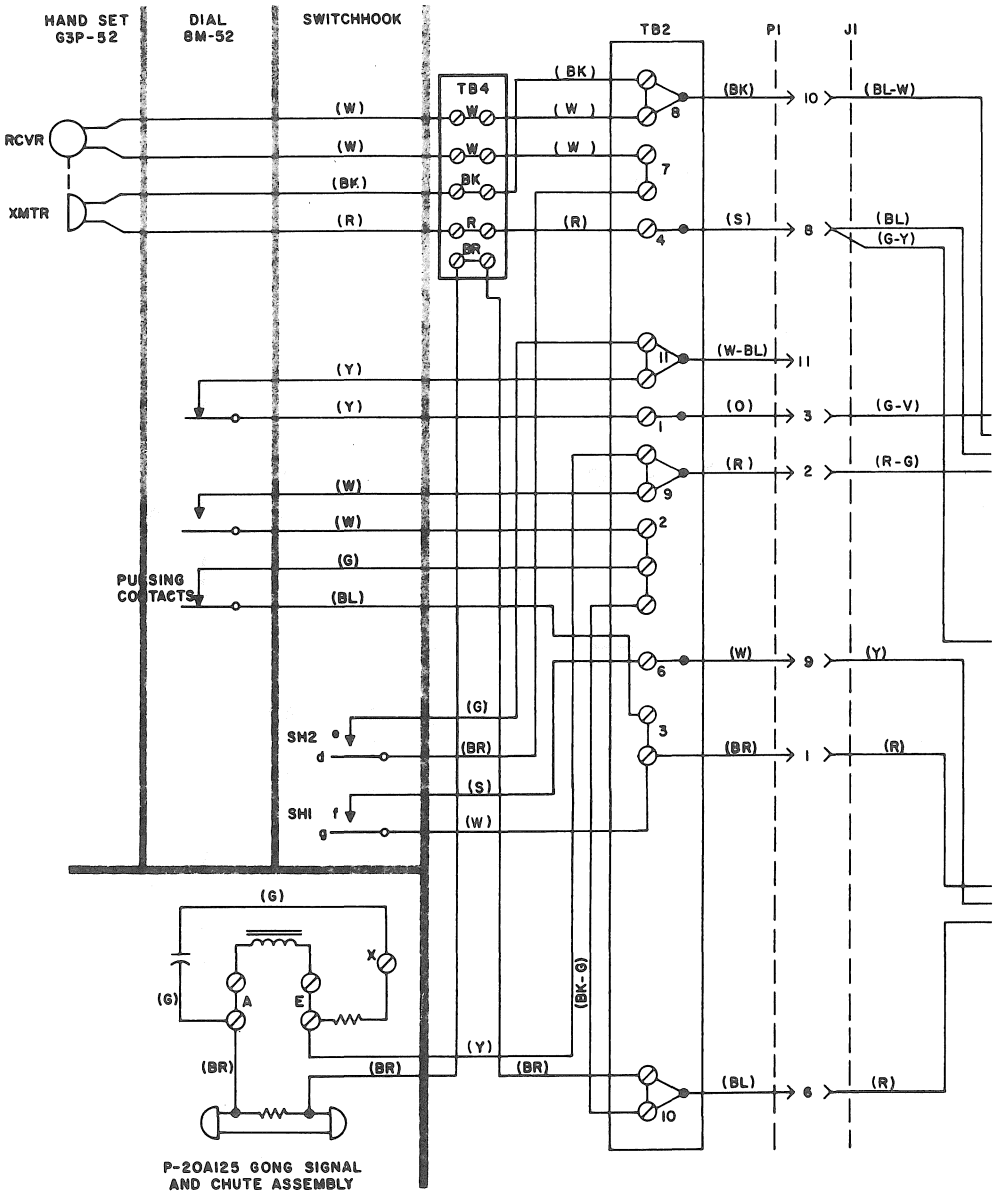
HAND SET G3P-52
DIAL 8M-52
SWITCHHOOK
TB4
TB2
P1
J1
RCVR
XMTR
PULSING CONTACTS
SM2
SH1
(W)
(BK)
(R)
(Y)
(G)
(BL)
(BR)
(S)
(O)
(W-BL)
(R-G)
(BL-W)
(G-Y)
(G-V)
X
A
E
P-20AI25 GONG SIGNAL AND CHUTE ASSEMBLY

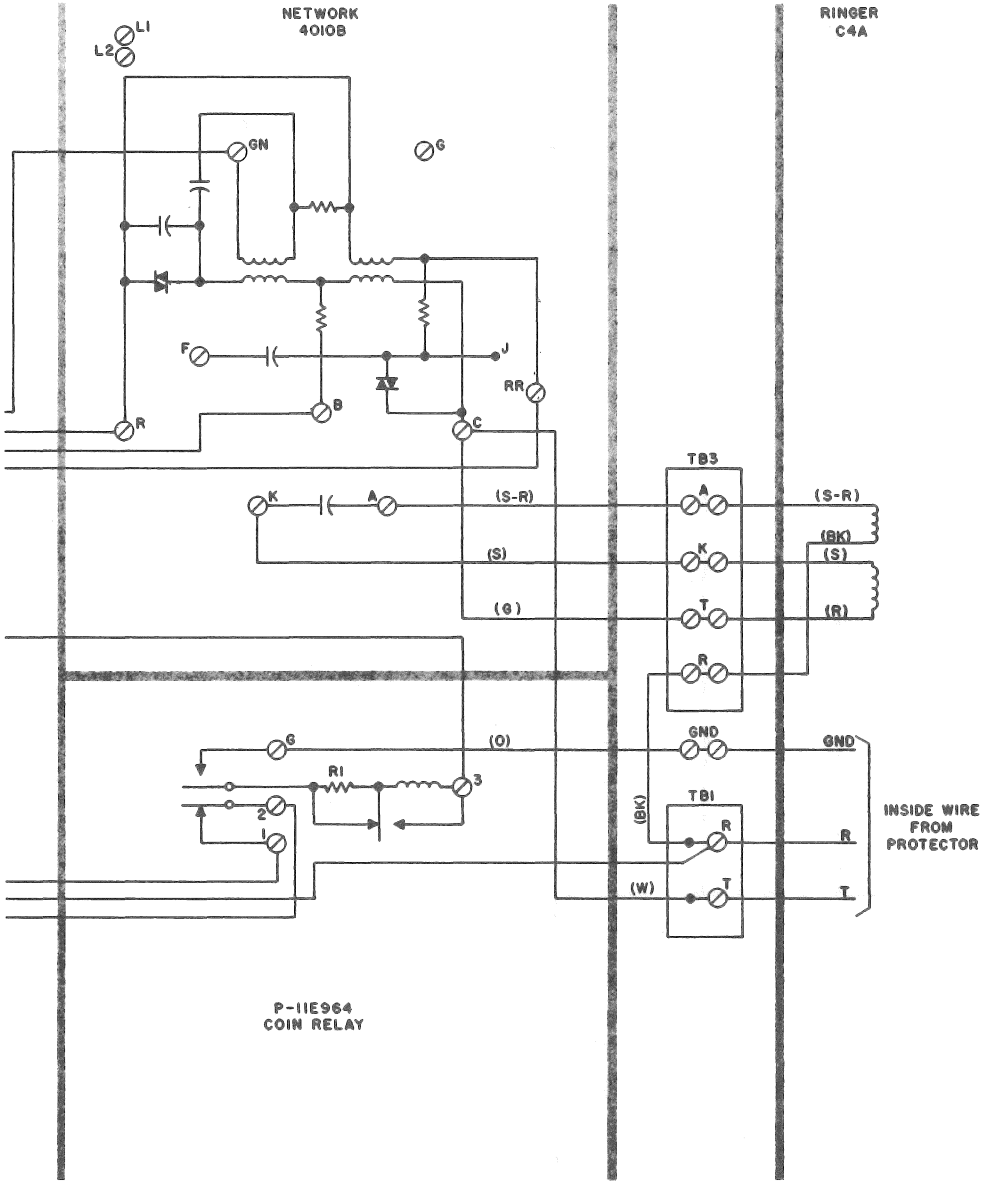

Fig. 1 - 235G Coin Telephone Set, Connections

SECTION 506-321-420
Issue 2, July 1964
AT&TCo Standard

COIN TELEPHONE SETS—1235G
CONNECTIONS

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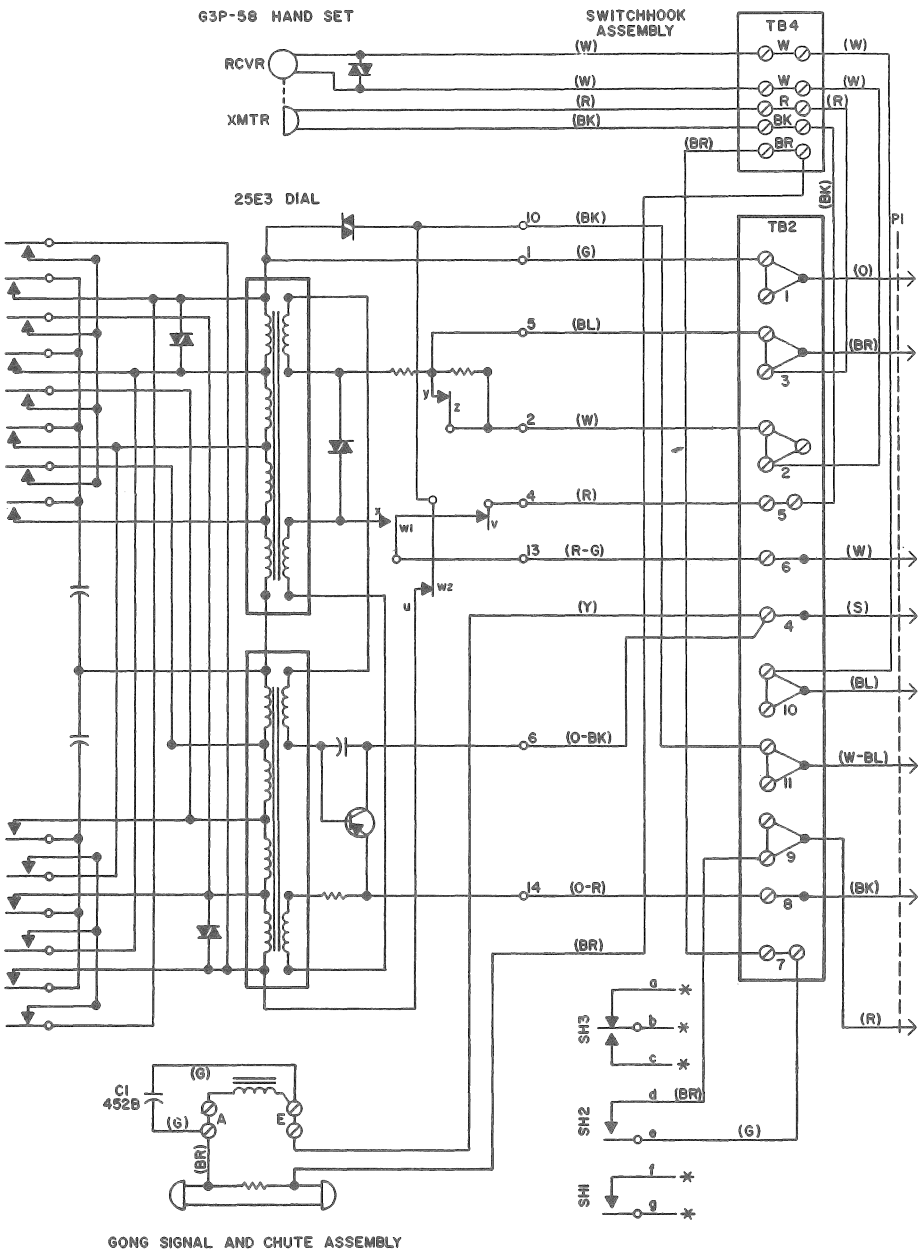
G3P-58 HAND SET
SWITCHHOOK ASSEMBLY
RCVR
XMTR
TB4
TB2
25E3 DIAL
(W)
(R)
(BK)
(BR)
(G)
(BL)
(O)
(Y)
(S)
(O-BK)
(W-BL)
(O-R)
(R-G)
C1 452B
A
E
SH3
SH2
SH1
GONG SIGNAL AND CHUTE ASSEMBLY

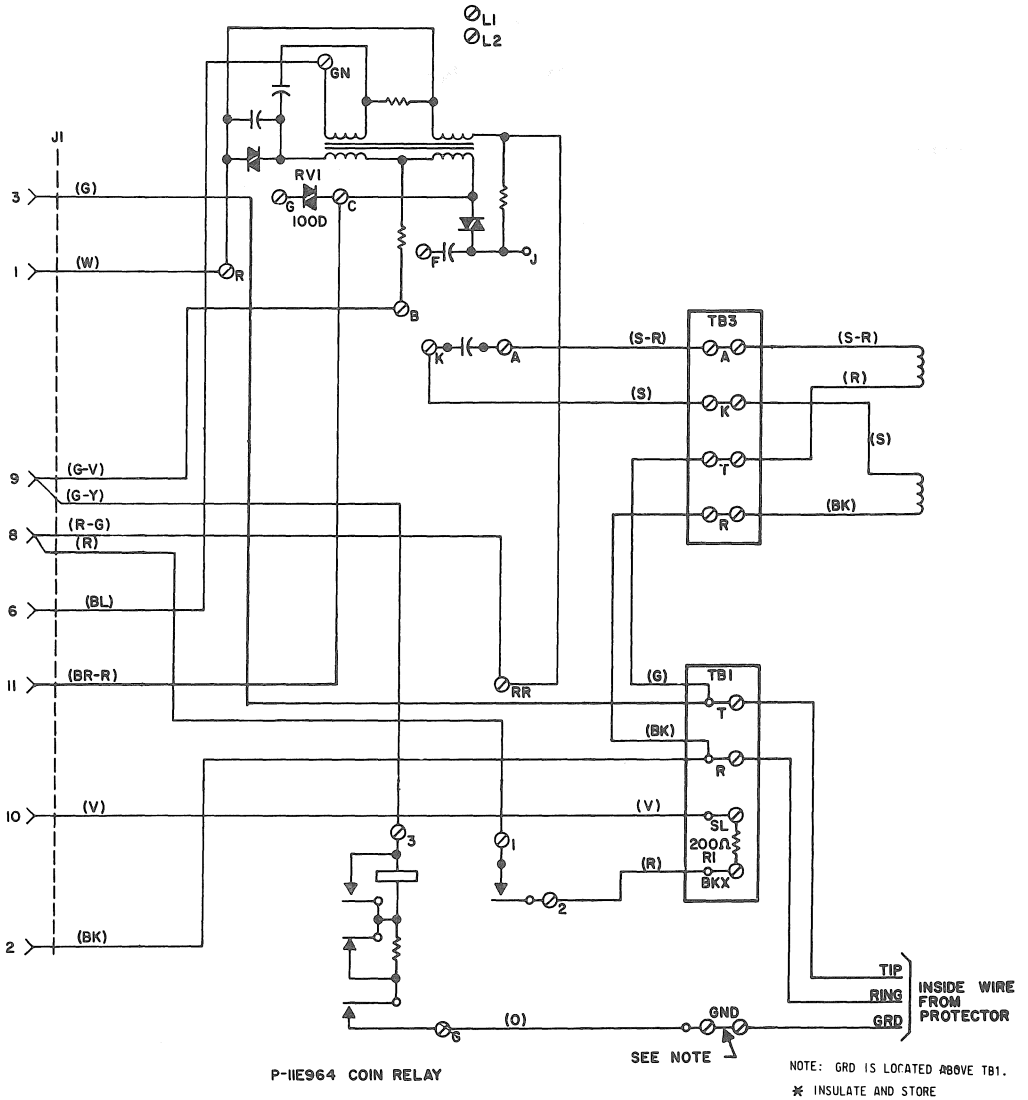

Fig. 1 - 1235G Telephone Set, Connections

COIN TELEPHONE
236G
CONNECTIONS

1. GENERAL

1.01 This section is reissued to add connections for 687A subscriber set which is optional.

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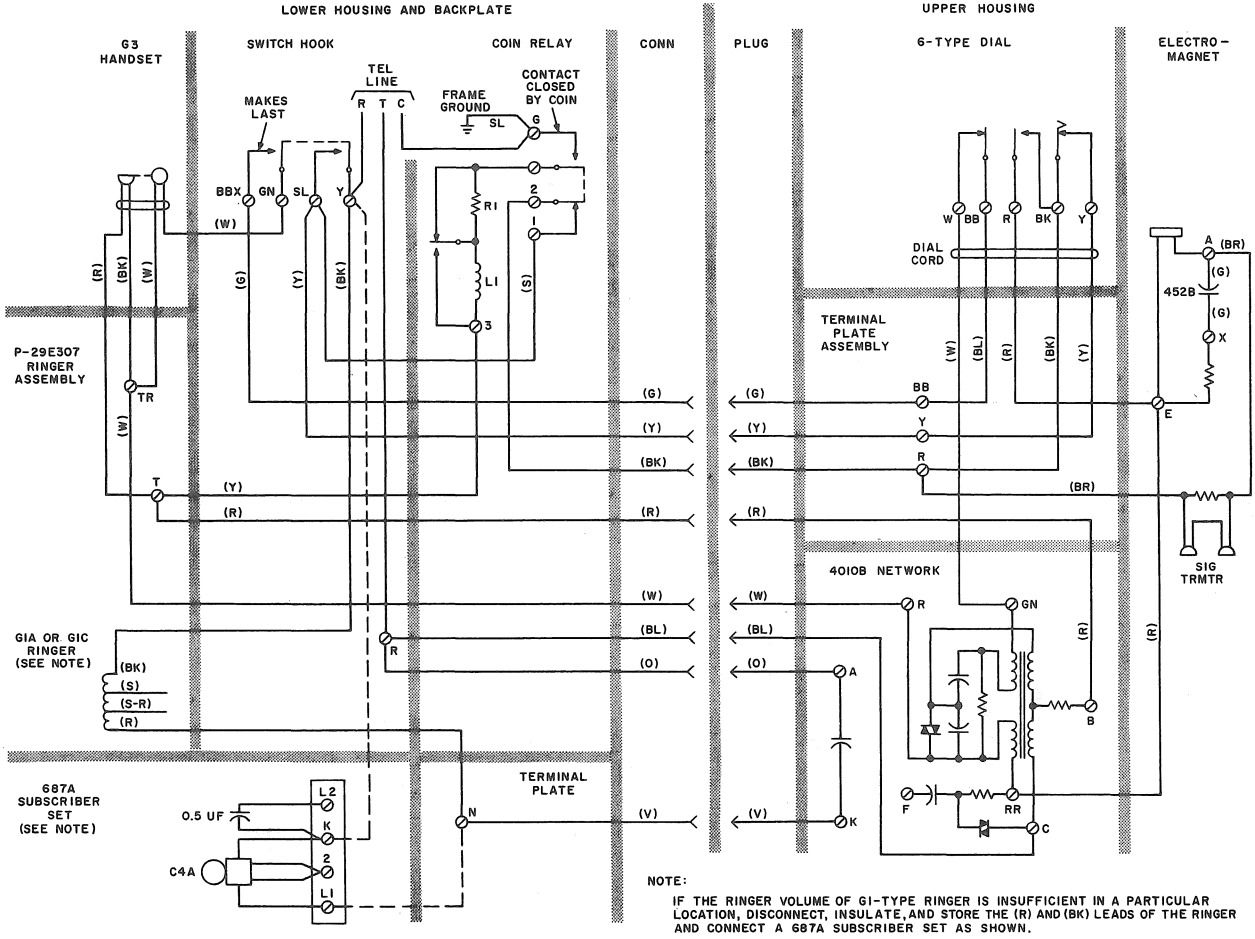

Fig. 1—236G Coin Telephone Set Connections

COIN TELEPHONE—1A-TYPE

1. GENERAL

1.001 This addendum supplements Section 506-326-200, Issue 2.

1.002 This addendum is issued to add 8S-52 and 35T3A dials for use with the 1A1 and 1A2 coin telephone sets, respectively.

The following change applies to Part I of the section:

(a) 1.01—revised

1.01 The 1A1 coin telephone set can be converted to a 1A2 by replacing the P-90C800 or P-90E400 cover unit assembly with a P-91C600 or P-90E500 cover unit assembly. No wiring changes are necessary.

4. INSTALLATION

The following changes apply to Part 4 of the section:

(a) Fig. 7—revised—Change callout for cover unit assembly to read:

P-90C800 or P-90E400 (1A1) or P-91C600 or P-90E500 (1A2) cover unit assembly.

Change callout for dial and housing assembly to read:

P-83B752 or P-90D274 (1A1) or P-26E153 or P-90D275 (1A2) dial and housing assembly.

5. MAINTENANCE

The following changes apply to Part 5 of the section:

(a) 5.01—2nd bullet revised to read:

- 8E-52 or 8S-52 dial (1A1)

(b) 5.01—3rd bullet revised to read:

- 35G3A or 35T3A dial (1A2)

(c) 5.01—5th bullet revised to read:

- P-83B752 or P-90D274 (1A1) or P-26E153 or P-90D275 (1A2) dial and housing assembly.

(d) 5.01—6th bullet revised to read:

- P-90C800 or P-90E400 (1A1) or P-91C600 or P-90E500 (1A2) cover unit assembly.

(e) 5.13—Note revised

Note: Remove and discard the dust cover before mounting an 8E or 8S dial in the 1A1 coin telephone set dial and housing assembly.

(f) 5.14—revised

5.14 To replace dial, reverse procedure, making sure that dial is properly seated on four locating pins. Make connections as follows:

1A1

DIAL LEADS		CONNECT TO
8E	8S	
BL	BL	TB2-9
G	G	TB2-10
W	W	TB2-3
W	W	TB2-2
	Y	TB2-9
	Y	TB2-9

1A2

DIAL LEADS		CONNECT TO
35G3A	35T3A	
G	G	TB2-4
W	W	TB2-2
R	R	TB2-5
R-G	R-G	TB2-6
BK	BK	TB2-1
O-BK	O-BK	TB2-11
O-R	O-R	TB2-12
BL	BL	TB2-3
BL-W	BL-W	TB2-7
	V	TB2-10
	O-W	TB2-10

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COIN TELEPHONES—1A-TYPE
INSTALLATION AND MAINTENANCE

1. GENERAL

1.01 ◗The 1A1 coin telephone can be converted to a 1A2 coin telephone by replacing the P-90C800 cover unit assembly with a P-91C600 cover unit assembly. No wiring changes are necessary.◖

1.02 This section is reissued to add information on 1A2 coin telephone.

2. LOCATION

2.01 Consider the following:

- Accessibility to customers
- Sufficient light
- Privacy
- Absence of noise and vibration
- Absence of grease, smoke, or dust
- Clearance from oily or dirty surfaces
- Clearance from stoves or heaters
- Clearance from moving machinery, piled merchandise, or narrow aisles
- Mounting surfaces—Consult a supervisor before locating coin telephone on finishes that would be expensive to repair if the set is removed.
- Inductive effects—Locate telephone and associated wiring at least six inches from neon fixtures, transformers, or other interference-causing equipment.

3. BACKBOARDS

When mounting the ◗1A-type◖ coin telephone, a vertical surface must be provided. A tilt greater than 1-1/2 degrees in any direction will cause malfunction of the telephone. A vertical surface may be determined by the following steps:

(1) Place a spirit level vertically against the mounting surface with the top end of the level at the required height of the coin telephone (3.04).

(2) Move the top or bottom end of the level away from the mounting surface as required to obtain a vertical reading.

(3) When a vertical reading is obtained, the end of the level opposite the point of contact shall be no farther from the mounting surface than described in Table A.

TABLE A

METHOD FOR DETERMINING A VERTICAL SURFACE

SPIRIT LEVEL LENGTH	MAXIMUM DISTANCE ALLOWED FROM SPIRIT LEVEL TO MOUNTING SURFACE ON OPPOSITE END FROM POINT OF CONTRACT
18 inches	15/32 inch
24 inches	5/8 inch
30 inches	25/32 inch
36 inches	15/16 inch

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(4) Ensure that a vertical surface is obtained in both directions.

3.01 Refer to Section 506-110-105 for identification and installation of backboards.

3.02 Refer to Section 506-110-103 for use of security studs.

Note: Security studs and mounting screws are not furnished and must be ordered separately.

WALL APPLICATIONS

178A-3 Backboard

3.03 The 178A-3 backboard is designed for mounting the ◗1A-type◖ coin telephone on a wall.

3.04 When mounting backboard on wall, observe following:

- If seat is used, install backboard with top edge approximately 52 inches from floor.
- If seat is not used, install backboard with top edge approximately 63 inches from floor.

3.05 Refer to Fig. 1 for mounting screw and security stud locations in the coin telephone.

Security studs used with ◗1A-type◖ coin telephone must have a thread length of not more than 1/4-inch to avoid interference with coin chute-totalizer assembly.

3.06 Secure coin telephone to 178A-3 backboard using four P-40Y060 security studs and 1/4-20 by 5/8 RHM screws as required.

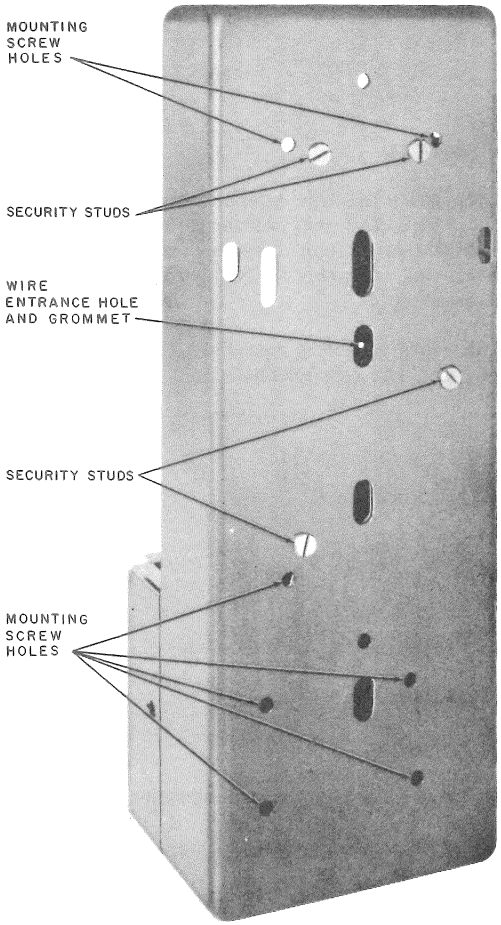

Fig. 1—Location of Mounting Screw Holes and Security Studs

BOOTH APPLICATIONS

10- and 11-Type Booths

3.07 Use one of the following kits:

(1) D-179939 Kit of Parts which includes:

- One KS-19340, List 53 backboard (Fig. 2)
- Two P-48F349 rails (Fig. 3)
- Six 1/4-20 by 3/4 hex head cap screws
- Six 1/4-20 by 1-1/8 hex head cap screws

(2) D-179940 Kit of Parts which includes:

- Two P-48F349 rails (Fig. 3)
- One P-48F348 filler block assembly (Fig. 4)

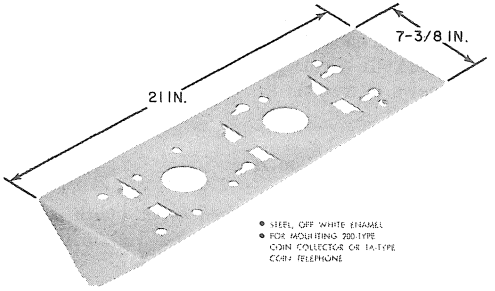

Fig. 2—KS-19340, List 53 Backboard

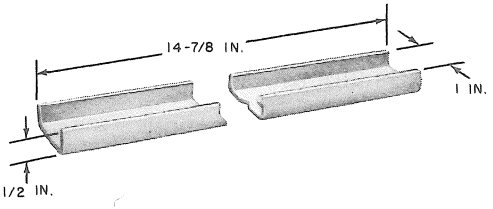

Fig. 3—P-48F349 Rail

- Six 1/4-20 by 3/4 hex hd cap screws
- Six 1/4-20 by 1-1/8 hex hd cap screws

READ

Mounting holes in the booth sides may be relocated instead of using rails and screws provided in the kit of parts.

(3) Use four P-40Y060 security studs and 1/4-20 by 5/8 RHM screws as required.

KS-16797 Universal Booth

3.08 Inspect backboard

- Early models (Fig. 5) are too short for the ▶1A-type◀ coin telephone and must be replaced.
- Later models (Fig. 6) will accept ▶1A-type◀ coin telephone or 200-type coin collectors.

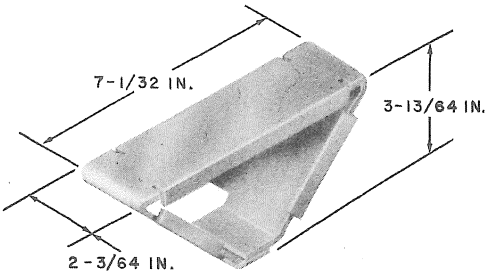

Fig. 4—P-48F348 Filler Block Assembly

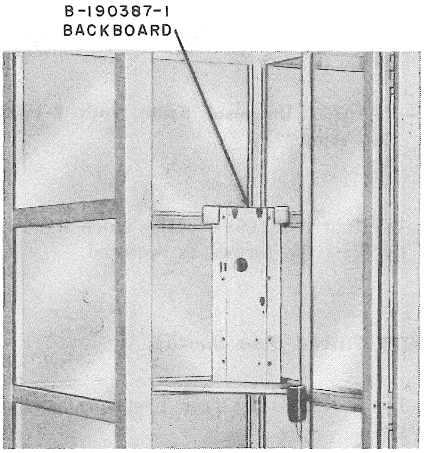

Fig. 5—KS-16797 Universal Booth with Early Version Backboard

3.09 If short backboard exists

(1) Remove and discard

(2) Obtain and install B-190387 backboard and two B-650326 filler blocks (Fig. 6).

- Blocks are for securing backboard to cross rails.

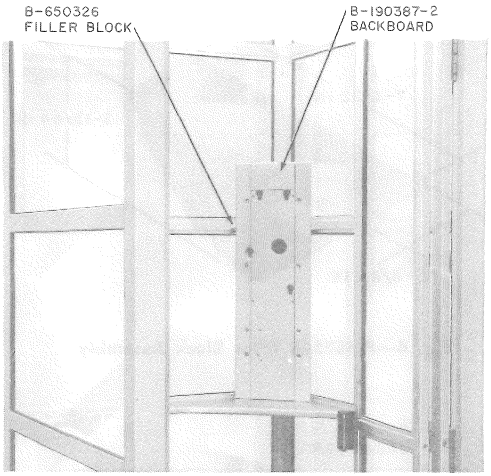

Fig. 6—KS-16797 Universal Booth with B-190387 Backboard

3.10 Use four P-40Y061 security studs and 1/4-20 by 5/8 RHM screws as required.

KS-19206 Curved Door Booth

3.11 Use KS-19206, List 6 coin telephone installation kit

● Refer to Section 506-115-200

3.12 Use four P-40Y060 security studs and 1/4-20 by 5/8 RHM screws as required

KS-19340 Wood Booth

3.13 Use KS-19340, List 53 backboard (Fig. 2) four P-40Y060 security studs; and 1/4-20 by 5/8 RHM screws as required.

KS-14611 Outdoor Booth

3.14 Use backboard furnished with booth, four P-40Y060 security studs, and 1/4-20 by 5/8 RHM screws as required.

KS-19425 Indoor—Outdoor Booth

3.15 Use backboard furnished with booth, four P-40Y061 security studs, and 1/4-20 by 5/8 RHM screws as required.

KS-19580 Outdoor Booth

3.16 Use backboard furnished with booth, four P-40Y060 security studs; and 1/4-20 by 5/8 RHM screws as required.

◊KS-20255 Telephone Kiosk◊

3.17 Use backboard furnished with booth

● Refer to Section 508-355-100

3.18 Use four P-40Y061 security studs and 1/4-20 by 5/8 RHM screws as required.

SHELF AND MOUNTING APPLICATIONS

KS-19267 Coin Telephone Shelf

3.19 Use backboard furnished with shelf, four P-40Y060 security studs, and 1/4-20 by 5/8 RHM screws as required.

KS-19426 Walk-Up, Drive-Up Mounting

3.20 Use KS-19426, List 7 installation kit

● Refer to Section 508-470-100

3.21 Use four P-40Y061 security studs and 1/4-20 by 5/8 RHM screws as required.

4. INSTALLATION

4.01 To gain access to the coin telephone mounting holes: remove cover unit assembly, coin chute-totalizer assembly, and chassis assembly as follows:

COVER UNIT ASSEMBLY

4.02 To remove cover unit assembly

(1) Unlock 29A lock.

(2) Release locking mechanism with 719A tool by turning tool 1/8-turn counterclockwise.

See Section 506-326-100 for illustration of 719A tool.

(3) Slide cover forward about 3 inches to obtain access to plug P1.

(4) Disconnect plug P1 (Fig. 7) by pulling straight out as cover is carefully lifted off.

COIN CHUTE-TOTALIZER ASSEMBLY

4.03 To remove coin chute-totalizer assembly

(1) Disconnect plug P2 (Fig. 7).

(2) Release chute locking lever and spring.

(3) Lift spring out of groove in coin chute.

(4) Tilt top of coin chute forward and lift out.

4.04 To replace coin chute-totalizer assembly

(1) Place assembly on pins located on rear of hopper assembly and back of housing (Fig. 8).

Note: Be sure reject chute assembly, return chute assembly, and coin return assembly line up.

(2) Place spring in groove on coin chute.

(3) Lock spring in place by pushing chute locking lever down.

(4) Reconnect totalizer plug P2 to J2.

Totalizer

4.05 The totalizer, mounted on the side of the coin chute, steps one increment for each 5 cents deposited. A nickel equals one, a dime two, and a quarter equals five increments.

4.06 To remove totalizer from coin chute

Do not separate coin chute-totalizer assembly unless necessary. Take care not to damage totalizer arms when removing or replacing totalizer on coin chute.

(1) Disconnect 654B transmitter by separating connector (Fig. 9).

(2) Remove three totalizer mounting screws from chute. (These are captive screws and will not fall out of totalizer.)

(3) Carefully remove totalizer from chute.

Setting Totalizer Rate

4.07 Totalizers are preset at manufacture at an initial rate of 10 cents. If initial rates other than 10 cents are required, they may be reset.

Use extreme care when resetting totalizer. Avoid damaging pawl and spring pile-ups. Do not attempt to turn totalizer cam shaft in direction opposite that shown in Fig. 10.

4.08 Two KS-16750, List 2 releasers or two paper clips are used to set the totalizer.

4.09 To set totalizer

(1) Remove totalizer cover by loosening captive cover screw (Fig. 9).

(2) Rotate totalizer shaft in proper direction (from bottom to top) until springs T2 (Fig. 10) rest in depression in shaft as indicated by movement of springs.

(3) Depress reset latch (Fig. 10) toward bottom of totalizer.

(4) Rotate shaft in proper direction until contacts T1 operate as indicated by an upward movement of the reset latch.

(5) Do not allow shaft to move. Insert one KS-16750, List 2 releaser or paper clip into hole 1 (Fig. 10) located near right-hand end of shaft. Take care not to disturb contact springs.

(6) Hold the paper clip firmly so that right-hand end of shaft cannot move.

(7) Insert the second releaser or paper clip into one of four holes indicated as hole 2 in center of shaft (Fig. 10). Do not allow end of releaser or clip to extend too far beyond shaft; this may damage insulation of coil located directly beneath shaft.

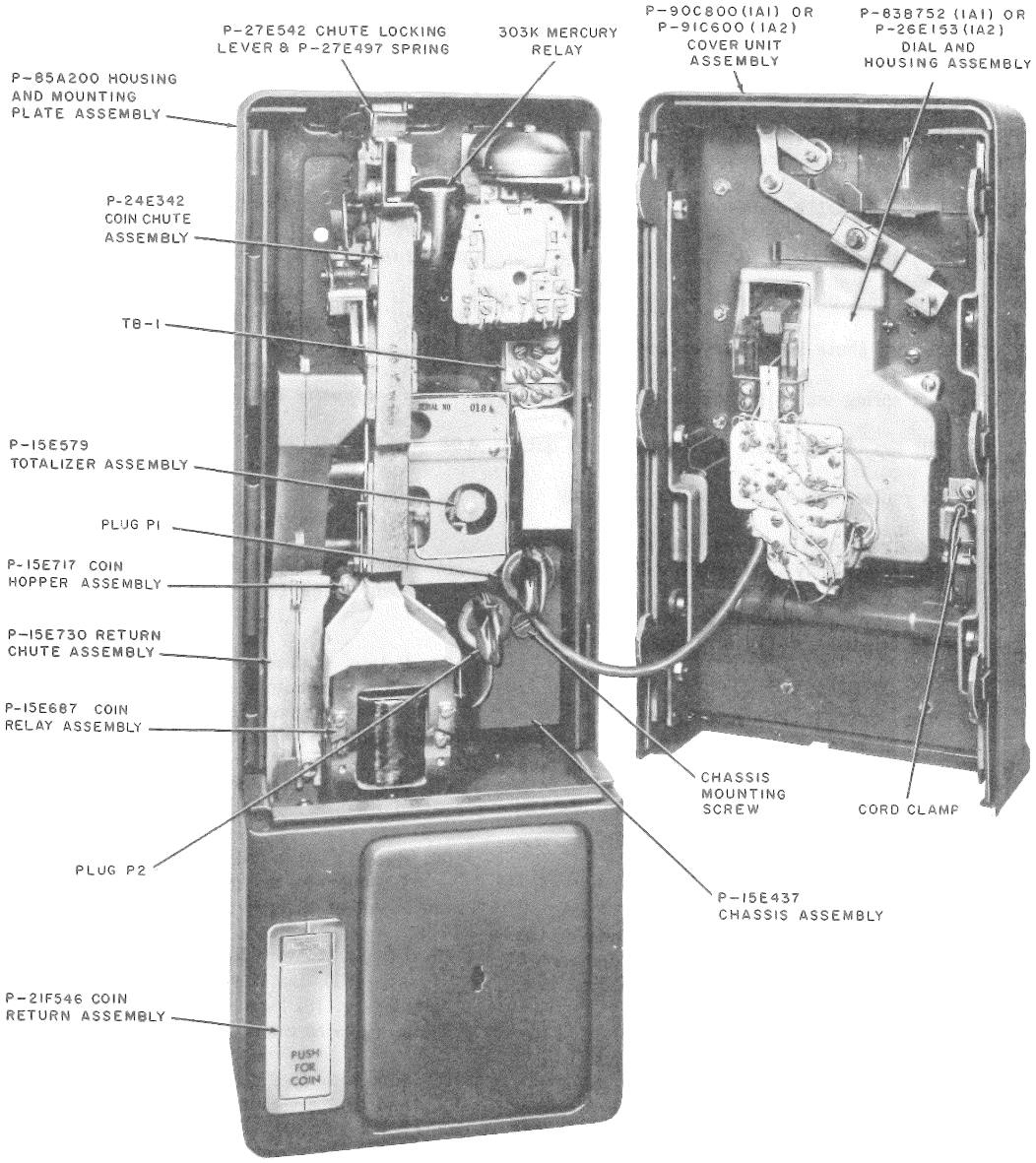

Fig. 7—Assembly of Parts (Typical)

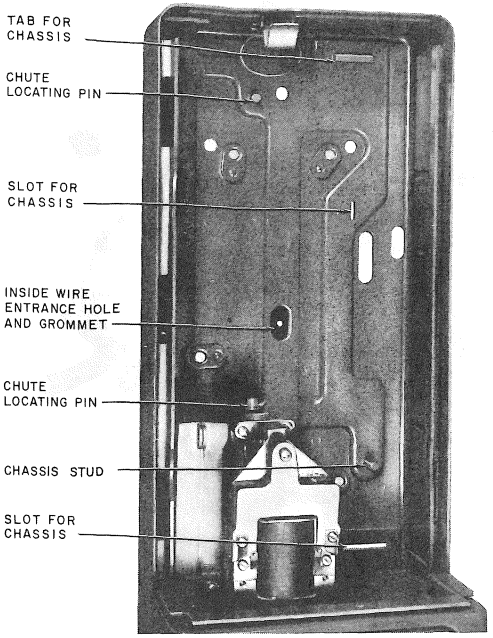

Fig. 8—P-85A200 Housing and Mounting Plate Assembly

(8) Rotate second releaser or clip in proper direction until springs T2 come to rest in depression in shaft. This is zero rate position. Do not remove releasers or clips from holes in shaft.

(9) Set desired charge rate by further rotating shaft in proper direction according to Table B.

(10) Remove releasers or paper clips.

4.10 To check for correct totalizer setting

(1) Rotate shaft in proper direction until springs T2 rest in depression in shaft.

(2) Release reset latch.

(3) Rotate shaft in proper direction, one step for each 5 cents of the lowest chargeable rate.

TABLE B

SETTING CHARGE RATE OF TOTALIZER

LOWEST CHARGEABLE RATE	ROTATE SHAFT IN PROPER DIRECTION (FROM BOTTOM TO TOP)
5 cents	One step
10 cents	Two steps
15 cents	Three steps
20 cents	Four steps
25 cents	Five steps
30 cents	Six steps

(4) Springs T1 should operate (indicated by reset latch moving forward) when lowest chargeable rate has been reached.

4.11 Example: For a 10-cent rate, shaft should be rotated two steps. On the second step, springs T1 should operate.

4.12 To replace totalizer

(1) Replace totalizer cover.

(2) Line up the long guide pins on the totalizer with holes in the coin chute.

(3) Place totalizer on coin chute making sure that totalizer arms enter slots in coin chute. Also be sure short guide pins on coin chute are in holes in totalizer bracket.

(4) Tighten three captive totalizer mounting screws.

(5) Reconnect 654B transmitter.

Note: Two different types of connectors exist for connecting the 654B transmitter to the totalizer assembly. ***Early assemblies*** have ***black wires*** with the male connector on the totalizer assembly and the female connector on the transmitter. ***Later assemblies*** have ***white wires*** with the male connector on the transmitter and the female connector on the

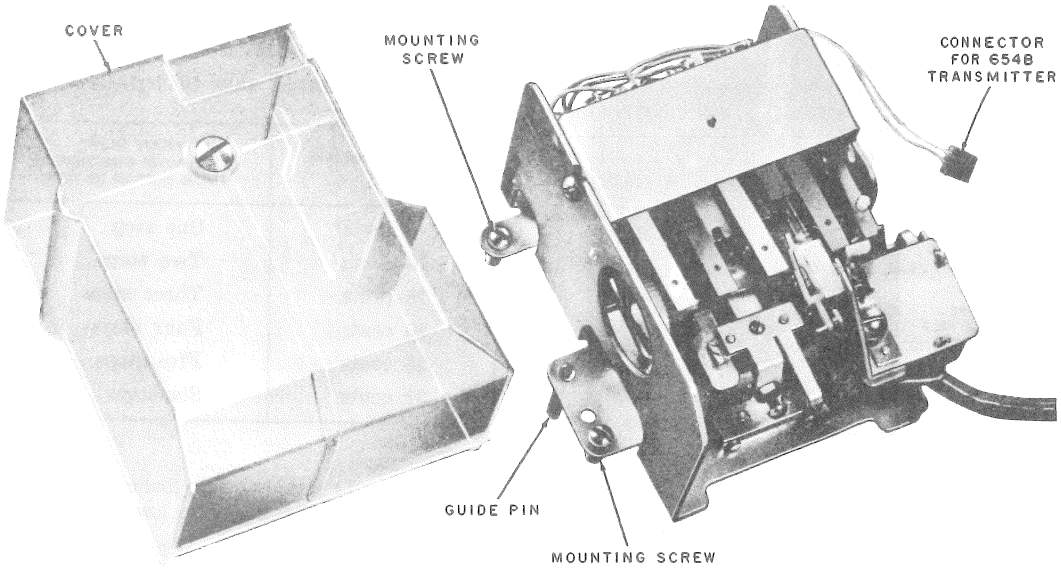

Fig. 9—Totalizer

totalizer assembly. If either, the transmitter or totalizer assembly requires replacing, the other must be replaced to ensure matching connectors.

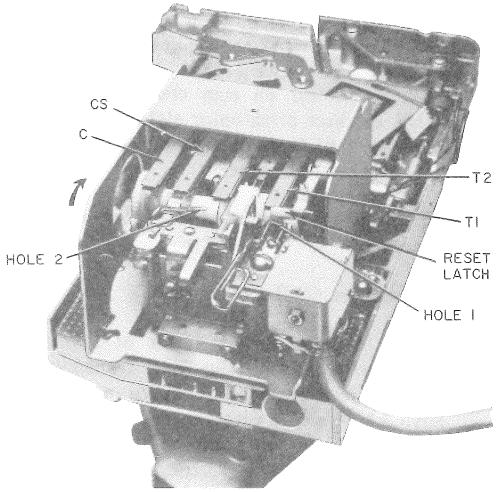

Fig. 10—Setting Totalizer Rate

CHASSIS ASSEMBLY

4.13 To remove chassis assembly

(1) Remove coin chute-totalizer assembly (4.03).

(2) Disconnect black and yellow leads from coin relay and carefully pull leads through guide hole on coin hopper.

(3) Loosen chassis mounting captive screw (Fig. 7).

(4) Pull chassis assembly out at bottom and slide down to remove.

4.14 To replace chassis assembly

Note: When installing chassis assembly, dress inside wire behind chassis as shown in Fig. 11. Allow for the wire to be connected to TB-1 from right side.

(1) Slide chassis under tab (Fig. 8).

(2) Seat chassis tabs in slots.

(3) Tighten chassis mounting captive screw (Fig. 7).

(4) Replace black and yellow leads on coin relay after threading through hole in hopper. Connect yellow lead to terminal G and black lead to terminal 3 of coin relay.

WIRING

4.15 Select and place wire in accordance with sections covering inside wiring. Wire all coin telephones with triple conductor station wire to provide individual ground for each station. The ground connection for this conductor must be the same one used for signaling ground.

4.16 Feed inside wire through wire entrance hole grommet (Fig. 1 and 11) as the set is mounted on baci board. Do not displace grommet.

4.17 See Fig. 11 for correct routing of inside wire. Dress wire behind chassis and run to right side of TB-1.

4.18 Conceal wiring near telephone. If this is not possible, use approved moulding or tubing. If moulding or tubing is not used, GS-type wire must be taped with friction tape. JKT wire need not be taped.

4.19 Locate any terminating apparatus, such as protectors, connecting blocks, etc, where they will be inaccessible to person using coin telephone.

COIN RECEPTACLE (CASH BOX)

4.20 The ▶1A-type◀ coin telephone is equipped with a 1B coin receptacle. If a greater capacity is desired, a 1C coin receptacle can be installed as follows:

(1) Remove 2A (cash compartment) door

(2) Remove 1B coin receptacle

(3) Remove false floor from bottom of cash compartment.

- Brake spot weld at left front tab
- Pry with large screwdriver or equivalent.

(4) Install 1C coin receptacle

(5) Install 2A (cash compartment) door

INSTRUCTION CARDS

4.21 Instruction cards are not furnished and must be procured locally

4.22 To install card

- Push up with fingers (Fig. 12)
- Snap card in place
- Ensure that card is seated properly in slot

4.23 To remove card

- Push up with fingers
- Pry bottom out with small screwdriver or equivalent

4.24 A gummed OUT-OF-SERVICE sticker (Form E-4914) is available.

- Place over coin slot
- Available in books of five.

▶NUMBER CARD (1A2 ONLY)

4.25 The number card shall be furnished locally.

4.26 The P-21F947 card holder bracket, P-21F948 window and two hex nuts (Fig. 13) are packaged separately and shipped in the cash compartment.

4.27 Install number card as follows:

(a) Remove dial housing (see 5.11).

(b) Insert P-21F948 window in faceplate from rear (Fig. 14).

(c) Insert number card in window (Fig. 15).

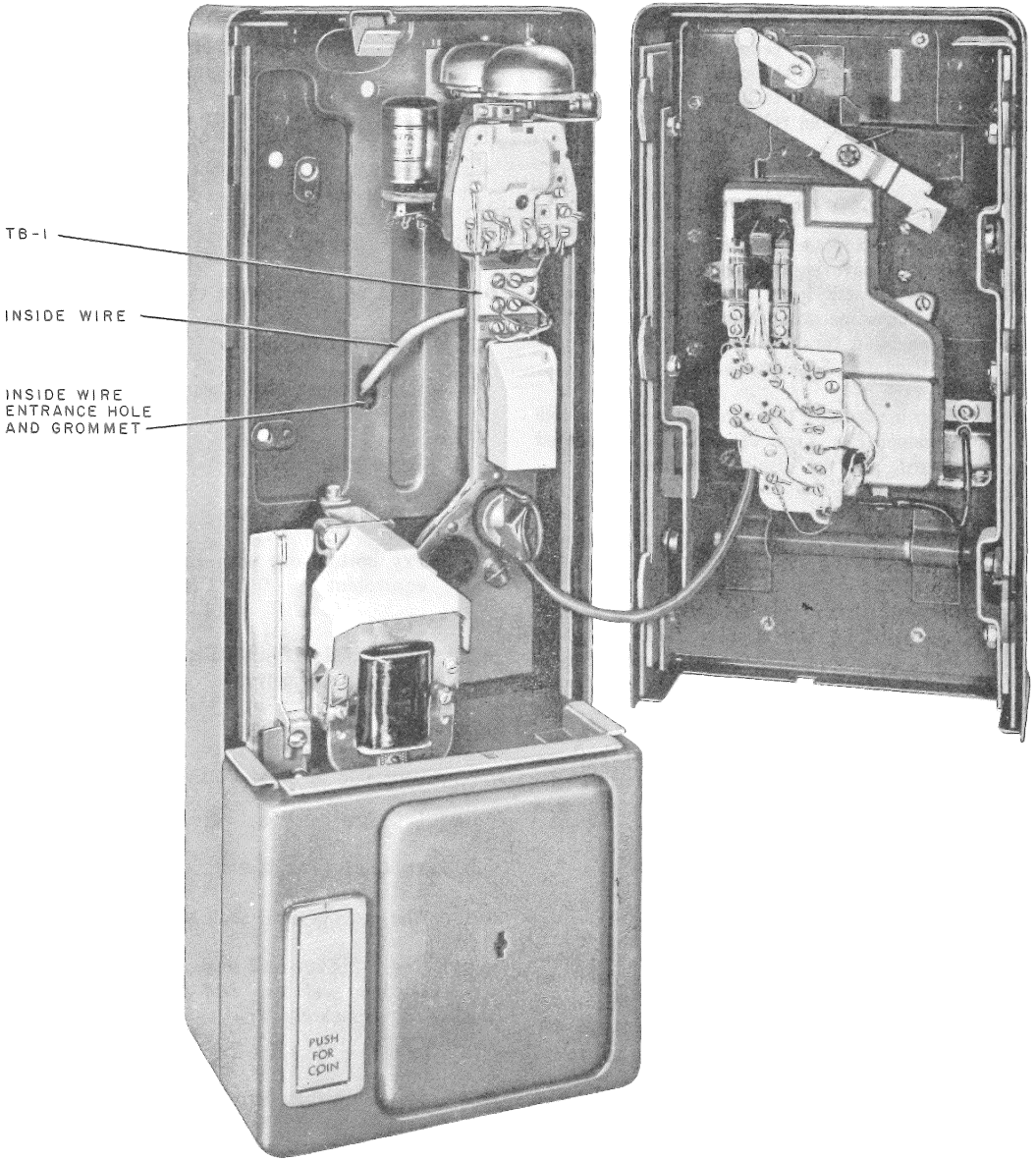

Fig. 11—1A-Type Coin Telephone—Partial View Showing Wire Entrance and Routing (Typical)

(d) Secure window and number card using the P-21F947 card holder bracket and two hex nuts (Fig. 16).

(e) Install dial housing.

After installation has been completed, refer to Section 506-326-500 and verify if the coin telephone is operating correctly.

Fig. 12—Installing Instruction Card (Typical)

5. MAINTENANCE

5.01 Maintenance of the ▶1A-type◀ coin telephone is limited to cleaning switch hook, clearing of foreign objects from coin chute, and replacement of the following components:

- G3P-52 handset
- 8E dial (1A1)
- ▶35G3A dial (1A2)◀
- 1B Coin receptacle rail
- P-83B752 (1A1) or ▶P-26E153 (1A2)◀ dial and housing assembly

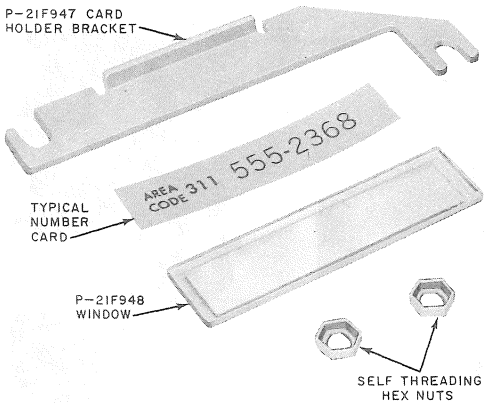

Fig. 13—Number Card and Associated Parts (1A2)

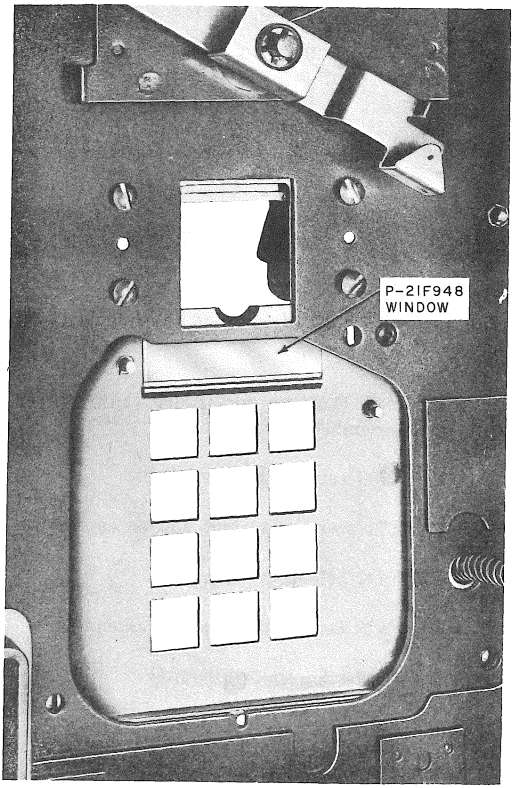

Fig. 14—Window Installed in Faceplate (1A2)

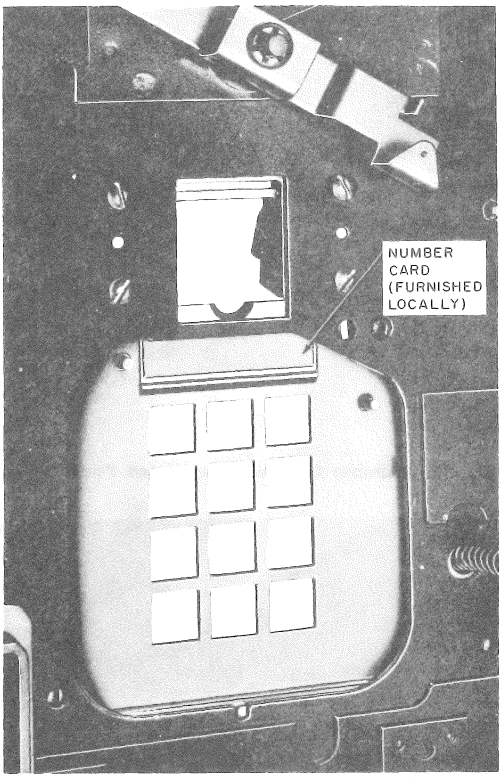

Fig. 15—Number Card Installed in Window (1A2)

- P-90C800 (1A1) or ◗P-91C600 (1A2)◖ cover unit assembly
- P-15E730 return chute assembly
- P-15E718 coin relay and hopper assembly
- P-15E687 coin relay assembly
- P-15E428 coin chute-totalizer assembly
- P-24E342 coin chute assembly
- P-15E579 totalizer assembly
- P-21F546 coin return assembly
- P-15E437 chassis unit assembly

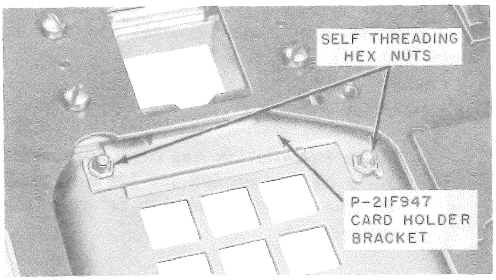

Fig. 16—Card Holder Bracket Installed (1A2)

- C4A ringer
- Instruction cards
- 303K Mercury relay
- 654B Transmitter

5.02 Refer to Part 4 of this section for the removal and replacement of cover unit assembly, coin chute-totalizer assembly, and chassis assembly.

COIN RELAY

5.03 To remove coin relay

(1) Disconnect black and yellow leads.

(2) Remove two screws on top front of coin relay (Fig. 17).

(3) Remove two hex head screws on sides of coin relay.

(4) Check that hopper trigger (Fig. 18) is in horizontal (up) position and pull off coin relay. Take care not to damage hopper trigger.

5.04 To replace coin relay

(1) Move vane on hopper to left or collect position.

(2) With hopper trigger in nonoperated position (up), move relay into position until trigger enters T-shaped slot in hopper and trap lever tab just enters opening in selector card.

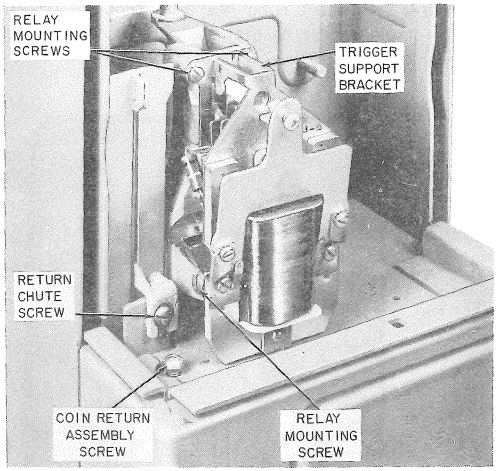

Fig. 17—Coin Relay and Return Chute

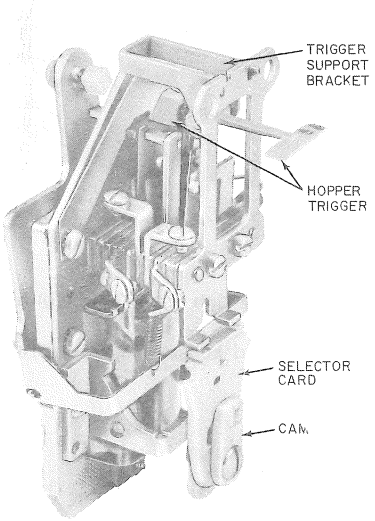

Fig. 18—Coin Relay

(3) Press down slightly on ear on left side of selector card and manually move armature forward to its operated position. Hold armature in this position.

(4) Move coin relay forward until square stem on vane enters hole in cam and mounting screw holes line up.

Note: Do not attempt to install relay if trigger support bracket (Fig. 17) is so distorted that mounting holes do not engage bosses on hopper.

(5) Place and tighten evenly two mounting screws in top of coin relay and two hex head mounting screws in each side of relay.

(6) Make sure that trigger, armature, trap, and vane operate without binding.

(7) Reconnect yellow lead to terminal G and black lead to terminal 3.

RETURN CHUTE ASSEMBLY

5.05 To remove return chute assembly

(1) Remove coin chute-totalizer assembly (4.03).

(2) Loosen screw on return chute assembly (Fig. 17).

(3) Lift assembly up and off.

5.06 To replace return chute assembly, reverse procedure.

COIN RETURN ASSEMBLY

5.07 To remove coin return assembly

(1) Remove coin chute-totalizer assembly (4.03).

(2) Remove return chute assembly (5.05).

(3) Remove coin return assembly locking screw (Fig. 17).

(4) Insert finger in coin return and tilt top forward.

(5) Lift coin return. Pull coin return assembly out and up.

5.08 To replace coin return assembly

(1) Tilt top of coin return assembly toward set.

(2) Push coin return assembly into set.

(3) Push in and down on bottom of coin return assembly until flush with front of housing.

(4) Install coin return assembly locking screw. Tighten screw only enough to hold return assembly in place. Further tightening will bend screw.

(5) Replace return chute assembly (5.06).

(6) Replace coin chute-totalizer assembly (4.04).

RINGER

5.09 To remove C4 ringer

(1) Remove coin chute-totalizer assembly (4.03).

(2) Remove chassis assembly (4.13).

(3) Disconnect four ringer leads—two from TB1 and two from network.

(4) Remove two ringer mounting screws and lift ringer off.

5.10 Replace C4 ringer by reversing procedure, making sure that locating pin on bottom of ringer is in grommet on chassis assembly. Make connections as follows:

WIRE COLOR	CONNECT TO
BK	TB1-T
R	TB1-R
S-R	Term. A (Network)
S	Term. K (Network)

DIAL HOUSING AND DIAL

5.11 To remove dial housing

(1) Remove four mounting screws in dial housing (Fig. 19).

(2) Lift dial housing off.

Note: Handset cord will pull through cover to enable access to dial without disconnecting cord.

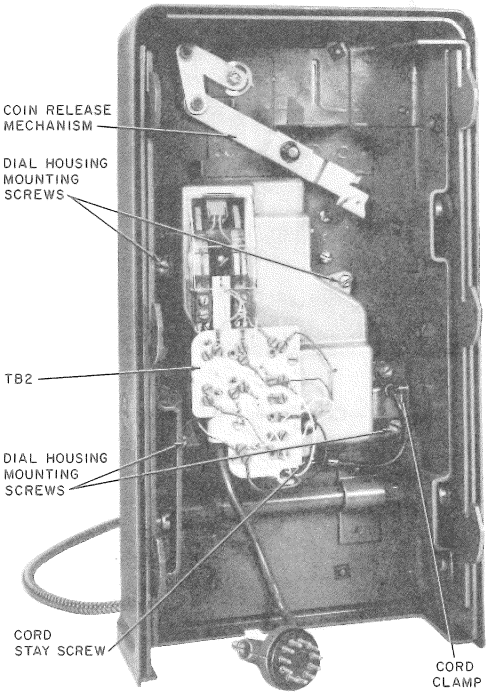

Fig. 19—Cover Unit Assembly (Typical)

5.12 To replace dial housing, reverse procedure.

5.13 To remove dial

(1) Remove dial housing (5.11).

(2) Disconnect dial leads from TB2.

(3) Loosen two mounting screws on sides of dial through access holes in dial housing.

(4) Lift dial off.

Note: When installing a new 8E dial in the 1A1, remove and discard the dust cover before installing it in the dial housing.

5.14 To replace dial, reverse procedure, making sure that dial is properly seated on four locating pins. Make connections as follows:

1A1		1A2	
WIRE COLOR	CONNECT TO	WIRE COLOR	CONNECT TO
BL	TB2-9	G	TB2-4
G	TB2-10	W	TB2-2
W	TB2-3	R	TB2-5
W	TB2-2	R-G	TB2-6
		BK	TB2-1
		O-BK	TB2-11
		O-R	TB2-12
		BL	TB2-3
		BL-W	TB2-7

HANDSET

5.15 To remove handset

(1) Disconnect handset leads from TB2.

(2) Loosen cord stay screw (Fig. 19).

(3) Remove screw and cord clamp from armored cord.

(4) Pull cord out front of cover.

5.16 To replace handset, reverse procedure. Make connections as follows;

WIRE COLOR	CONNECT TO
R	TB2-3
BK	TB2-5
W	TB2-7
W	TB2-8

COIN HOPPER

5.17 The coin hopper cannot be removed without removing 2A door and coin receptacle.

DEFECTIVE COINS

5.18 When tests indicate foreign objects or defective coins in coin chute-totalizer assembly:

(1) Operate coin release lever in attempt to clear coins into return chute.

(2) If trouble does not clear

- Remove upper cover assembly
- Remove coin chute-totalizer assembly (4.03).
- Swing upper plate assembly open (Fig. 20).

Exercise extreme care when closing the upper plate assembly. If the quarter divider (Fig. 20) gets positioned differently from the way shown, it may become damaged when the upper plate assembly is closed.

- Remove any foreign objects or stuck coins.

Remove totalizer from coin chute only when necessary to clear objects that cannot be dislodged from lower portion of coin chute.

Exercise care when removing or replacing totalizer from coin chute to prevent damage to totalizer coin arms. Do not attempt to make any adjustments to the totalizer other than setting the initial charge rate (see note in 4.12).

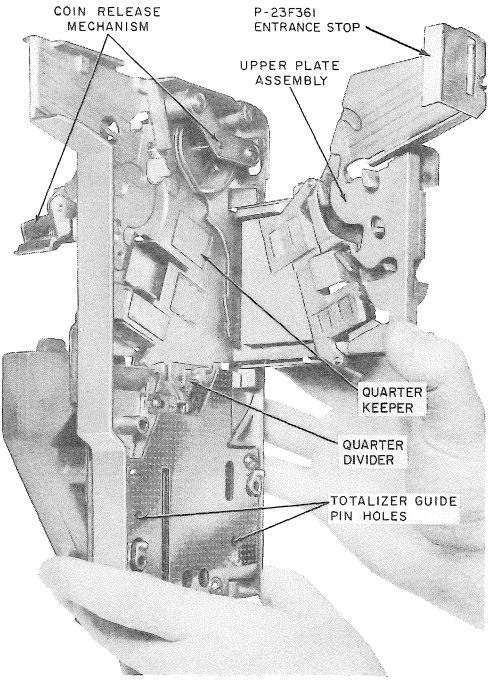

Fig. 20—Coin Chute Assembly

- Check for foreign material on coin chute magnets.

(3) If no foreign objects are found and coins will not pass through chute, replace coin chute assembly.

Note: In early models, the quarter keeper, located in the coin chute, may become loose and not permit the quarter to pass. ***Do not*** attempt to repair this in the field.

(4) Install coin chute-totalizer assembly in housing (4.04).

(5) Coin chute should be tested by depositing coins with cover unit assembly both off and on housing.

ELECTRICAL TROUBLES

5.19 If electrical troubles are indicated refer to Section 506-326-400 (Connections) or Section 506-326-500 (Tests).

CLEANING

5.20 When necessary, the surface of the coin telephone may be cleaned with KS-7860 petroleum spirits or a suitable liquid wax such as Johnson's No. 7700 cleaning and polishing wax emulsion.

Warning: KS-7860 petroleum spirits is highly flammable. Use safety precautions while it is being used.

COIN TELEPHONES—1A- AND 2A-TYPE CONNECTIONS

1. GENERAL

1.01 This section is reissued to add connections for the 8S-52 and 35T3A dials.

1.02 Fig. 1 shows connections for 1A2 or 2A2 coin telephone set.

1.03 Fig. 2 shows connections for 1A1 or 2A1 coin telephone set.

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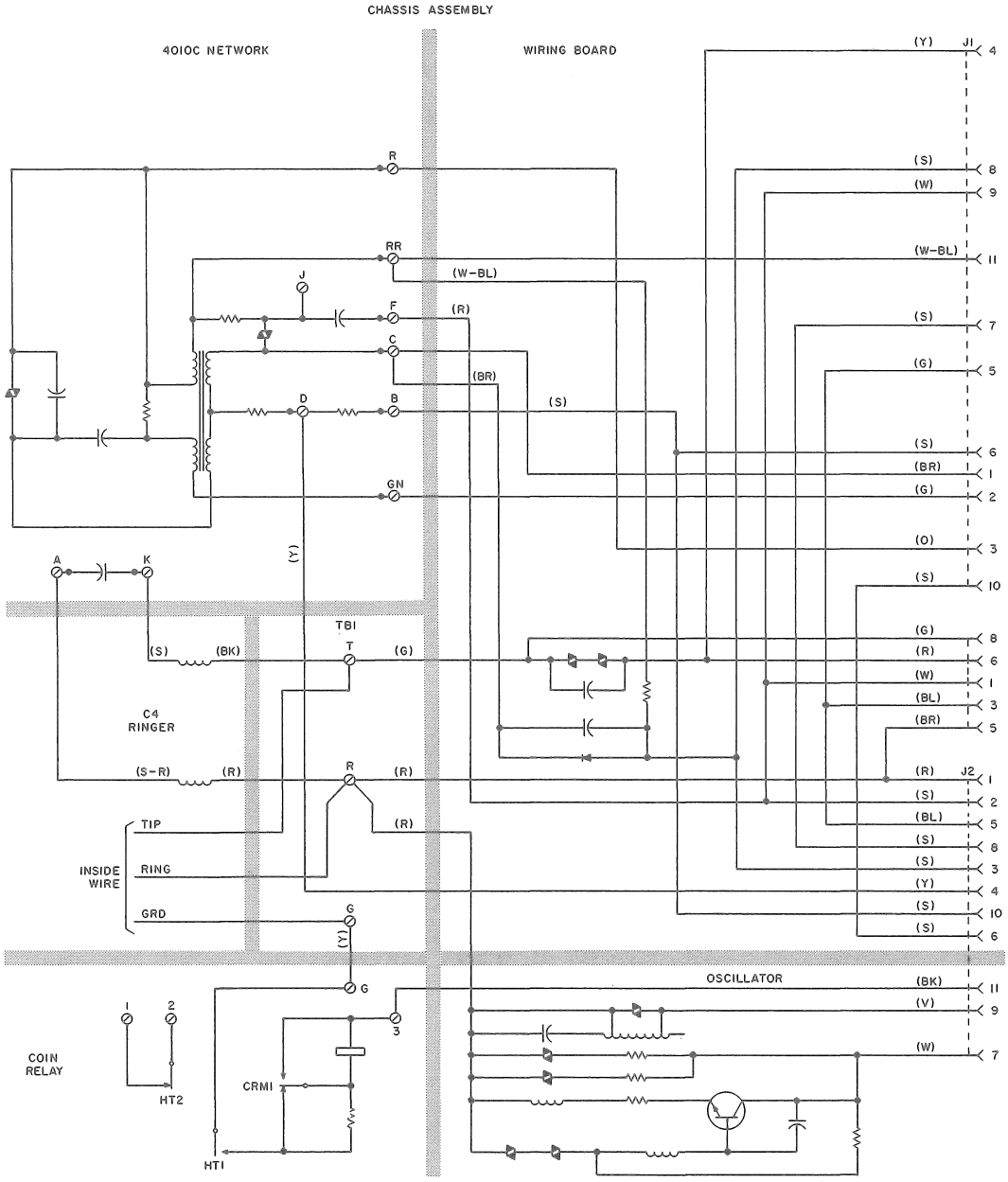

Fig. 1—1A2 or 2A2 Coin Telephone Set—Connections (Sheet 1)

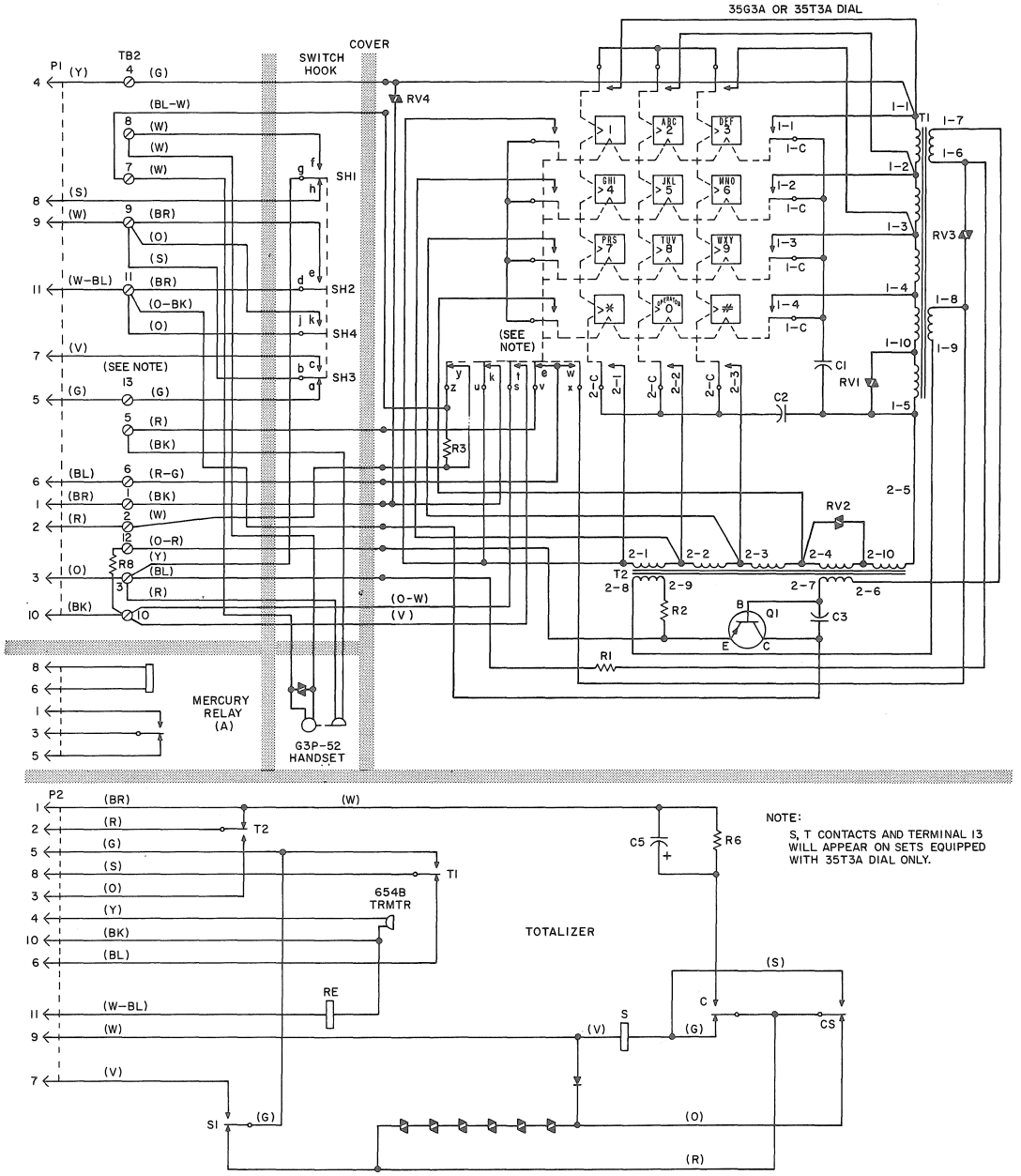

Fig. 1—1A2 or 2A2 Coin Telephone Set—Connections (Sheet 2)

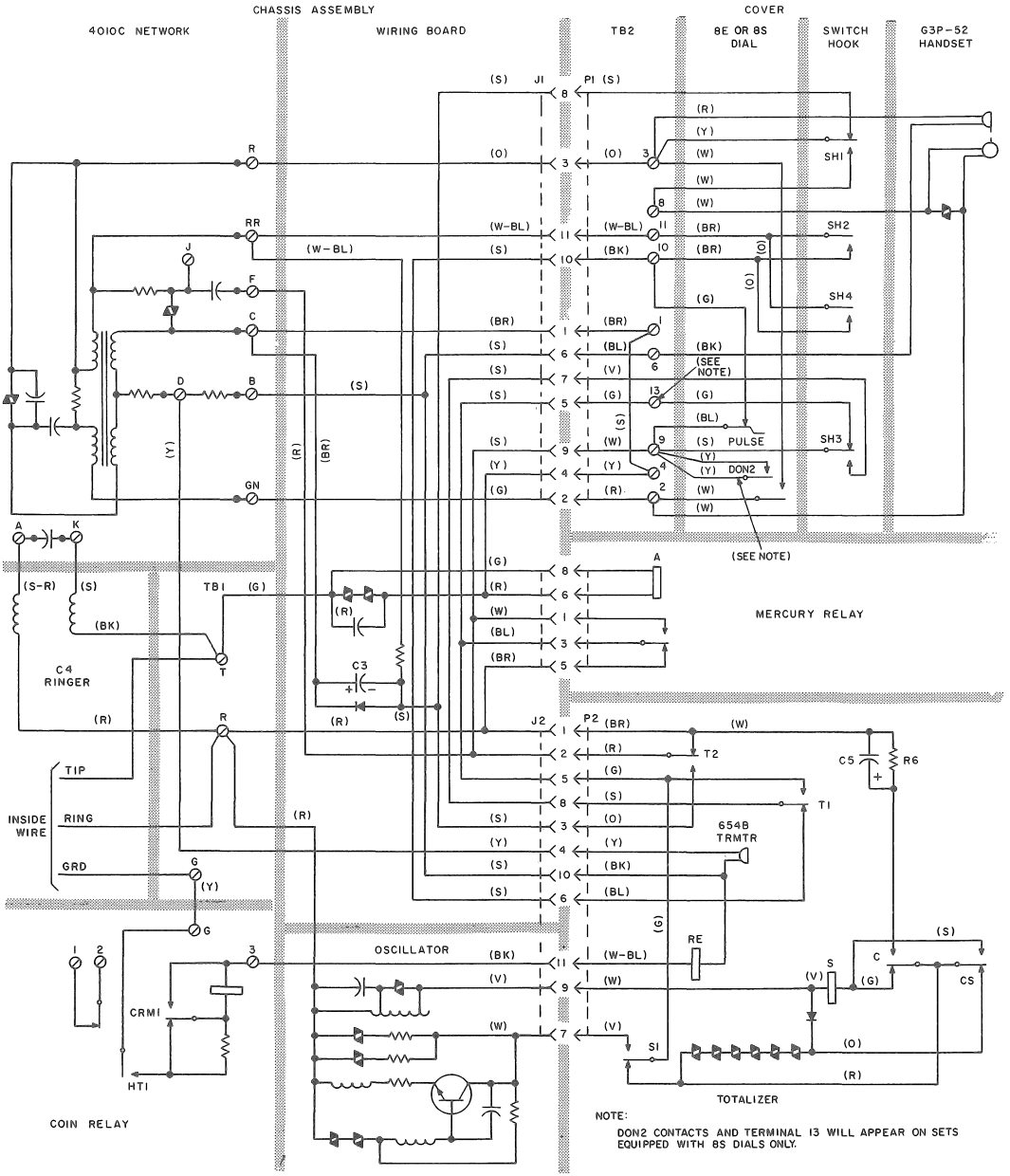

Fig. 2—1A1 or 2A1 Coin Telephone Set—Connections

COIN TELEPHONE—1A- AND 2A-TYPE
OPERATION TESTS AND TROUBLE ANALYSIS

1. GENERAL

1.01 This section provides operation tests which should normally be performed at completion of installation.

1.02 This section is reissued to add information on 2A1 and 2A2 coin telephones, and to change title.

1.03 Refer to Section 506-326-200 for installation and maintenance of 1A-type coin telephones. ▶Refer to Section 506-328-200 for installation and maintenance of 2A-type coin telephones.◀

1.04 Operation tests covered are:

A. Totalizer and Coin Relay Operation (On-Hook)

B. Coin Relay Bias Margin Test

C. Dial Tone Test

D. Totalizer Operation (Off-Hook)

E. Coin Tone Signaling

F. Coin Release Mechanism

2. APPARATUS REQUIRED

(a) P11C Cord

(b) 1011B Test Set or equivalent

(c) Coins: 1 penny, 2 nickels, 1 dime, 2 quarters

(d) 146B Bias Margin Gauge

3. PREPARATION

STEP	ACTION	VERIFICATION
Tests A, B, C, D, and E		
1	Invert handset on switch hook (Fig 1) (1A-type only). *Note:* Prevents armored cord from pushing handset off switch hook when cover is removed.	
2	Remove cover unit assembly (1A-type) ▶or open door and faceplate assembly (2A-type)◀ and remove plug P1. Place cover unit assembly (1A-type) on a firm level surface.	
3	Connect P11C cord between plug P1 and jack J1 of chassis assembly.	

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4. METHOD

STEP	ACTION	VERIFICATION
A. Totalizer and Coin Relay Operation (On-Hook)		
4	Deposit quarter in coin chute.	Totalizer operates and then steps back to home position. Coin relay refunds coin. *Note:* If coin is not refunded, repeat with a second quarter before assuming failure. Cam shaft could be in such position initially that no response would be obtained from CO.
5	Repeat Step 4 using a dime and then a nickel.	Same as Step 4.
B. Coin Relay Bias Margin Test		
	Note: Make this test when coin relay fails to operate or operates in the wrong direction.	
4	Remove coin relay dust cover.	
5	Remove handset, call test desk and request a bias margin test. (Use central office test circuit where available.)	
6	Slip 146B bias margin gauge (Fig. 2) over left pole piece extension arm from left side of coin relay (Fig. 3).	
7	Request deskman to perform operation appearing in the lower left corner of gauge.	Relay operates to accomplish what is indicated in lower left corner of gauge.
8	Reverse the 146B bias margin gauge by turning it around on the same pole piece extension arm.	
9	Repeat Step 7.	Same as Step 7.
10	Remove 146B gauge.	
11	Hang up handset (inverted on 1A-type).	
C. Dial Tone Test		
4	Remove coin relay dust cover.	
5	Remove handset.	

STEP	ACTION	VERIFICATION
6	Operate hopper trigger.	Dial tone heard.
7	Dial any digit but "0" or "1".	Dial tone should not break.
8	Hang up handset (inverted on 1A-type).	
D. Totalizer Operation (Off-Hook)		
	Note: Totalizer set for an initial rate of 10 cents.	
4	Remove handset.	
5	Deposit nickel in coin chute.	Totalizer cam rotates 1 step. No dial tone.
6	Deposit second nickel.	Totalizer cam rotates an additional step and then steps back to home position. Dial tone is heard.
7	Dial any digit but "0" or "1".	Dial tone is broken.
8	Hang up handset (inverted on 1A-type).	Coin relay refunds coins.
9	Remove handset.	
10	Deposit dime in coin chute.	Totalizer cam rotates 2 steps and then steps back to home position. Dial tone is heard.
11	Repeat Steps 7 and 8.	Same as Steps 7 and 8.
12	Remove handset.	
13	Deposit quarter in coin chute.	Totalizer cam rotates 5 steps and then steps back to home position. Dial tone is heard.
14	Repeat Steps 7 and 8.	Same as Steps 7 and 8.
E. Coin Tone Signaling		
4	Connect leads of 1011B test set to tip and ring terminals on TB1.	
5	Place ***TALK-MONITOR*** switch of test set in ***MONITOR*** position.	
6	Remove handset.	

STEP	ACTION	VERIFICATION
7	Deposit dime in coin chute.	Dial tone is heard in coin telephone handset. *Note:* Beeps should not be heard in handset of coin telephone.
8	Dial any digit but "0" or "1" with coin telephone dial.	Dial tone breaks.
9	While monitoring with test set, deposit nickel in coin chute.	One beep heard in test set. *Note:* Prior to hearing beep, passage of coin down chute is heard in test set.
10	Deposit dime in coin chute.	Two beeps heard in test set. (See Note in Step 9)
11	Deposit quarter in coin chute.	Five rapid beeps heard in test set. (See Note in Step 9)
12	Hang up handset (inverted on 1A-type).	Coin relay refunds all coins.
13	Disconnect 1011B test set.	
14	Replace coin relay dust cover.	
15	Check ringer for maximum volume position of gong.	
16	Remove P11C cord. Replace plug P1 into jack J1. Replace cover unit assembly (1A-type), ▶or close door (2A-type).◀	
17	Replace handset properly on switch hook.	
18	Dial the dial test number and verify all frequencies and amplitudes (1A2 and 2A2).	
19	Call local operator, have station called, and verify that coin telephone is working correctly.	

F. Coin Release Mechanism

1	Deposit penny.	
2	Depress coin return lever.	Penny drops into coin return.

5. TROUBLE ANALYSIS

5.01 On trouble reports of coins collected or returned in error, try to obtain area code and telephone number of called party to facilitate tracing trouble in central office.

5.02 Refer to Table A for trouble analysis for the coin telephone.

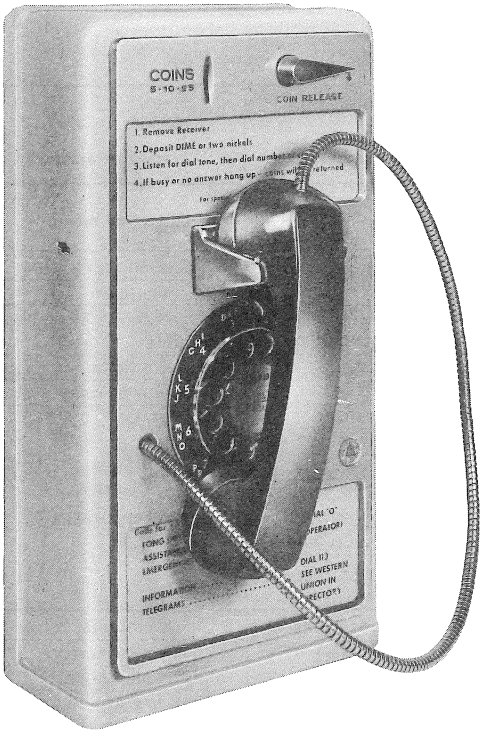

Fig. 1—Cover Unit With Handset Inverted (Typical of 1A-Type)

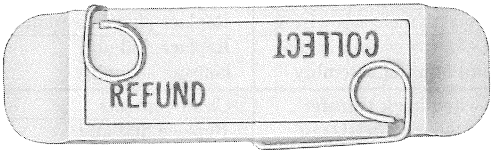

Fig. 2—146B Bias Margin Gauge

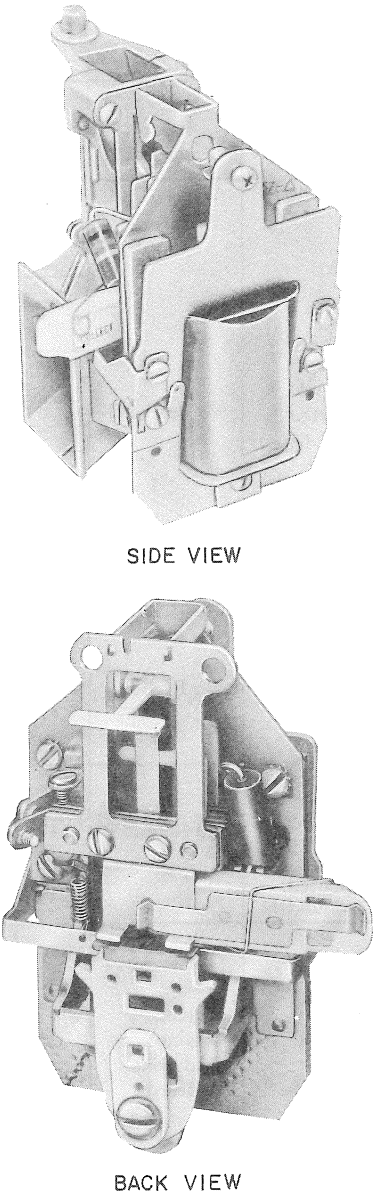

Fig. 3—Bias Margin Gauge in Position for Collect Test

TABLE A

TROUBLE ANALYSIS
(INITIAL RATE SET FOR 10 CENTS)

TELEPHONE SET CONDITION	FAILURE	* STEP NO.	COIN TELEPHONE 1A1 AND 2A1	COIN TELEPHONE 1A2 AND 2A2	POSSIBLE CAUSE	REMEDIAL ACTION
Handset On-Hook (inverted on 1A-type) Deposit Quarter	No Readout†	1	•	•	Tip and ring reversed	Reconnect as required
		2	•	•	Plugs P1 & P2 reversed	
		3	•	•	Central office overload	Wait, then repeat test
		4	•	•	Switchhook transfer contacts SH1(NC) and SH3(NC) not making	Clean contacts Replace dial and housing assembly
		5	•	•	Coin relay contact HT1 not making	Clean contacts Replace coin relay
		6	•	•	Defective totalizer	Replace defective apparatus
		7	•	•	Defective coin relay	
		8	•	•	Defective chassis wiring	
		9	•	•	Defective wiring in dial and housing assembly	
		10	•	•	Defective A relay	
		11	•	•	Defective handset	
		12		•	Defective dial	
Handset On-Hook (inverted on 1A-type) Deposit Nickel	No Readout†	13	•	•	Switch hook transfer contacts SH3(NC) not making	Clean contacts Replace dial and housing assembly
		14	•	•	Defective wiring in dial and housing assembly	Replace dial and housing assembly
		15	•	•	Central office overload	Wait, then repeat test
Handset On-Hook (inverted on 1A-type) Nickel Deposited, Readout OK	No Refund	16	•	•	Switch hook contacts SH2 or SH4 not breaking	Replace dial and housing assembly
		17	•	•	Defective totalizer	Replace totalizer
		18	•	•	Central office overload	Wait, then repeat test
		19	•	•	Defective CO coin trunk	Refer to test center
Handset Off-Hook Deposit Nickel	Readout obtained, Dial Tone is Heard	20	•	•	TI contacts remain latched after refund	Replace totalizer
		21	•	•	Initial rate set for 5 cents	Reset totalizer rate
		22	•	•	Switch hook transfer contacts SH3(NC) not breaking	Replace dial and housing assembly
		23	•	•	Defective chassis wiring	Replace chassis assembly
		24	•	•	Defective wiring in dial and housing assembly	Replace dial and housing assembly
Handset Off-Hook Initial rate (10 cents) Deposited	No Readout†	25	•	•	Switch hook transfer contacts SH3(NO) or SH2(NO) not making	Clean contacts Replace dial and housing assembly
		26	•	•	Totalizer set for more than initial rate	Reset totalizer rate
		27	•	•	Defective wiring in dial and housing assembly	Replace dial and housing assembly

TABLE A (Cont)
TROUBLE ANALYSIS
(INITIAL RATE SET FOR 10 CENTS)

TELEPHONE SET CONDITION	FAILURE	* STEP NO.	COIN TELEPHONE 1A1 AND 2A1	COIN TELEPHONE 1A2 AND 2A2	POSSIBLE CAUSE	REMEDIAL ACTION
Handset Off-Hook, Initial Rate Deposited, Readout OK	No dial tone (or reduced dial tone level in 1A2 and 2A2)	28	•	•	Switch hook transfer contacts SH1 (NO) not making	Clean contacts Replace dial and housing assembly
		29	•		Rotary dial off-normal contacts not breaking	Replace dial and housing assembly
		30	•	•	Defective totalizer	Replace defective apparatus
		31	•	•	Defective chassis wiring	
		32	•	•	Defective wiring in dial and housing assembly	
		33	•	•	Defective handset	
		34		•	Defective dial	
	Coins return after readout with no dial tone	35	•	•	Switch hook contacts SH2 and SH4 not making	Clean contacts Replace dial and housing assembly
		36	•		Open dial	Replace defective apparatus
		37	•	•	Defective chassis wiring	
		38	•	•	Defective wiring in dial and housing assembly	
	Totalizer steps continuously (may give bursts of tone)	39	•	•	Totalizer transfer contacts T2 (NC) not making	
		40	•	•	Defective chassis wiring	
		41	•	•	Defective wiring in dial and housing assembly	
Handset Off-Hook Dial Tone OK	Cannot break dial tone	42	•	•	Totalizer contacts T1 not latching	Replace totalizer
		43	•		Defective dial	Replace defective apparatus
		44	•	•	Defective chassis wiring	
		45	•	•	Defective wiring in dial and housing assembly	
		46		•	Defective handset	
	Coins return when dial is operated	47	•	•	Defective dial	
Handset Off-Hook, Hopper Trigger Tripped by Hand, Dial Tone Obtained, Dialed One Digit Other than "0" or "1"	Dial tone broken	48	•	•	Totalizer transfer contacts T1 (NO) not making	Replace totalizer
Handset Off-Hook, Initial Rate Deposited, Readout OK	No dial tone and no refund	49	•	•	Totalizer transfer contacts T2 (NC) not making	Replace totalizer
		50	•	•	Totalizer steps through zero rate position	

TABLE A (Cont)

TROUBLE ANALYSIS
(INITIAL RATE SET FOR 10 CENTS)

TELEPHONE SET CONDITION	FAILURE	* STEP NO.	COIN TELEPHONE 1A1 AND 2A1	COIN TELEPHONE 1A2 AND 2A2	POSSIBLE CAUSE	REMEDIAL ACTION
Handset Off-Hook, Readout OK, Dial Tone OK, Refund OK	No Sidetone	51	•	•	Open transmitter	Replace handset
Operator On Line, Deposit Nickel	No Readout, Operator Cannot Hear Coin Tone	52	•	•	Defective A relay	Replace A relay
Operator On Line, Deposit Additional Coins	Hear Coin Tones in Handset‡	53	•	•	Defective chassis wiring	Replace chassis assembly
	No Coin Tones Heard by Operator	54	•	•	Totalizer transfer contacts S1 (NC) not making	Replace totalizer
		55	•	•	Defective oscillator	Replace chassis
	Dime Tones Too Fast	56	•	•	Totalizer transfer contacts CS (NC) not making	Replace totalizer
		57	•	•	CS cam not resetting	
	Too Many Coin Tones	58	•	•	Totalizer not stepping properly — T2 (NC) not making	
	Quarter Tones Too Slow	59	•	•	Totalizer transfer contacts CS (NC) not breaking	

* Steps should be taken in sequence. Possible cause assumes that preceding tests have been met.
† Readout refers to operation of totalizer and generation of beeps by coin signal oscillator.
‡ A slight tone may be heard on long loops but may not necessarily be a failure.

COIN TELEPHONE SET—2A-TYPE
INSTALLATION AND MAINTENANCE

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1. GENERAL

1.01 This section is reissued to:

- Add 8S-52 dial and P-90D274 dial and housing assembly (2A1)
- Add 35T3A dial and P-90D275 dial and housing assembly (2A2)
- Delete information pertaining to 654B transmitter.

1.02 The 2A1 and the 2A2 coin telephone sets are similar except that the 2A1 has a rotary dial while the 2A2 has a 12-button TOUCH-TONE® dial. The internal components are similar to the 1A1 and 1A2 coin telephone sets, respectively.

▶1.03 Due to the customized fitting and finishing of panel phone door and faceplate assembly, it is recommended that a complete set subsitution

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be made when upgrading a rotary dial station to TOUCH-TONE or vice-versa.

2. INSTALLATION

2.01 The 2A-type coin telephone set may be installed in the following:

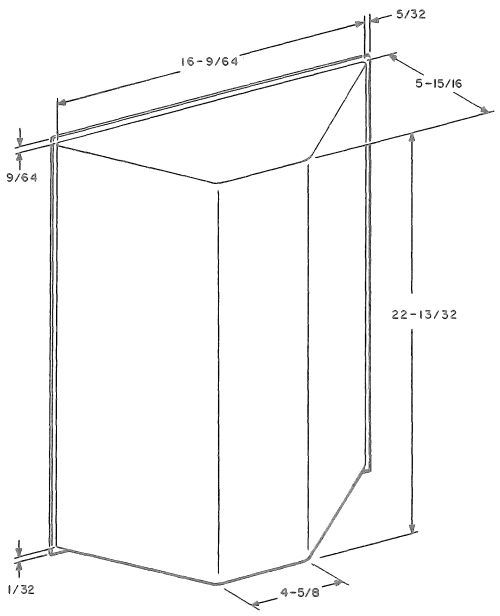
- KS-19206 curved door booth
- KS-19340 wood booth
- KS-19442 glass deluxe booth
- KS-19426 walk-up, drive-up mounting
- KS-19681 coin telephone shelf
- KS-20194 coin telephone shelf
- A wall that will allow the phone to be recessed

2.02 Overall dimensions of the coin telephone set are shown in Fig. 1.

LOCATION

2.03 Consider the following:

- Accessibility to customer
- Sufficient light
- Privacy
- Minimum noise and vibration
- Absence of grease, smoke, or dust
- Clearance for door swing
- Clearance from moving machinery, piled merchandise, or narrow aisles
- Mounting surfaces—Consult a supervisor before locating coin telephone on finishes that would be expensive to repair if the set is removed.
- Inductive effects—Locate telephone and associated wiring at least 6 inches from neon fixtures, transformers, or other interference-causing equipment.



NOTES:
1. ALL DIMENSIONS SHOWN ARE IN INCHES.
2. THE SWITCH HOOK AND HANDSET EXTEND 2-3/4 INCHES IN FRONT OF THE FACEPLATE.

Fig. 1—Rear View Showing Dimensions

BACKBOARDS AND SECURITY STUDS

2.04 Refer to Section 506-110-105 for complete information on backboards and observe the following:

A vertical surface must be provided for mounting the coin telephone set. A tilt greater than 1-1/2 degrees in any direction can cause coin chute malfunction.

2.05 A vertical surface (shelf or booth) may be determined by the following steps:

(1) Place a spirit level vertically against the mounting surface on which the coin telephone set is to be installed.

(2) When a plumb reading is obtained, the end of the level opposite the point of contact

shall be no farther from the mounting surface than described in Table A.

TABLE A

METHOD OF DETERMINING VERTICAL SURFACE

SPIRIT LEVEL LENGTH	MAXIMUM ALLOWABLE DISTANCE OUT-OF-PLUMB
18 inches	15/32-inch
24 inches	5/8-inch
30 inches	25/32-inch
36 inches	15/16-inch

2.06 The left to right mounting axis shall also be within 1-1/2 degrees of true vertical.

2.07 Refer to Section 506-110-103 for use of security studs.

Use security studs with short thread length in the two top holes. Use long thread length studs in the two bottom holes. Top studs must be flush or underflush with inside of backplate to avoid interference with coin chute. Security studs are not furnished and must be ordered separately.

2.08 Refer to Fig. 2 for mounting screw and security stud locations in the telephone set.

INSTALLING

2.09 To gain access to the coin telephone set mounting holes:

(1) Open door and faceplate assembly (2.15)

(2) Remove coin chute-totalizer assembly (2.16)

(3) Remove chassis assembly (2.22)

2.10 Install the 2A-type coin telephone set as follows:

Flush Wall Mounting

2.11 Refer to Fig. 1 for dimensions of the set.

2.12 Ensure that the wall will accept the set.

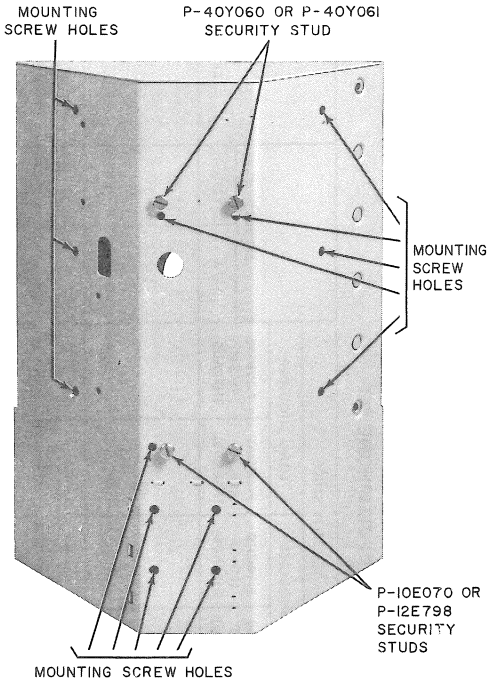
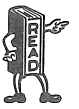


Fig. 2—Location of Mounting Screw and Security Stud Holes

2.13 Cut a hole in the wall per the following dimensions:

- Height—22-1/2 inches
- Width—16-1/4 inches
- Depth—6 inches when fully recessed or 3-1/2 inches when KS-19681 shelf is used.



Ensure that the lip of the faceplate or the aluminum frame of the KS-19681 shelf overlaps the wall around the hole. If security studs are used, top of hole must be enlarged approximately 1/2-inch and a false panel procured locally to close the extra opening.

2.14 Refer to Table B for installation information.

◗TABLE B◖

INSTALLATION OF 2A-TYPE COIN TELEPHONE SET

BOOTH, SHELF, OR MOUNTING	USE BACKBOARD FURNISHED	USE OTHER THAN BACKBOARD FURNISHED	P-23F790 1/4-20 x 5/8 HARDENED RHM SCREWS*	SECURITY STUDS				COVER†		REMARKS
				SHORT SHOULDER		LONG SHOULDER				
				P-40Y060 (SHORT THREADS)	P-10E070 (LONG THREADS)	P-40Y061 (SHORT THREADS)	P-12E798 (LONG THREADS)	127A	127B	
KS-19206 Booth		KS-19206, List 7 Installation Kit	•	2	2				•	
KS-19340 Booth		KS-19340, List 54 Backboard	•	2	2			•		Refer to Section 508-111-200
KS-19426 Mounting	•		•			2	2			Refer to Section 508-470-200
KS-19442 Booth		KS-19340, List 54 Backboard	•	2	2			•		
KS-19681 Shelf	•		•							
KS-20194 Shelf	•		•	2	2					Refer to Section 508-122-100

* Furnished with coin telephone set, use minimum of seven screws.

† Three No. 8-32 by 3/16 RHM screws are furnished with cover for installation.

COMPONENTS

Door and Faceplate Assembly

2.15 ***To open door and faceplate assembly:***

(1) Unlock 29A lock

(2) Release locking mechanism with 719A tool by turning 1/8-turn counterclockwise.

(3) Open door approximately 3 inches to obtain access to plug P1 (Fig. 3).

(4) Disconnect P1 by pulling straight out as door is opened.

Exercise care to keep the set from tipping over when door is opened.

Coin Chute—Totalizer Assembly

2.16 ***To remove coin chute-totalizer assembly:***

(1) Disconnect plug P2 (Fig. 3).

(2) Release chute locking lever (Fig. 3).

(3) Lift spring out of groove in coin chute.

(4) Tilt top of coin chute forward and lift out.

2.17 ***To remove totalizer (Fig. 4) from coin chute:***

Do not damage totalizer arms when removing or replacing totalizer on coin chute, or when returning damaged totalizers to service center. Do not remove screws sealed with glyptal. When returning totalizers or chutes to service centers, reuse packing material from which the new item was removed.

(a) Unscrew three captive-type mounting screws from chute.

(b) Carefully remove totalizer from chute.

2.18 ***To reset totalizer rate:***

Note: Totalizers are preset at the factory for an initial 10-cent rate. If initial rates other than 10 cents are required, they may be reset (Fig. 5).

Two KS-16750, List 2 releasers or two paper clips are used to set the totalizer.

Use extreme care when resetting totalizer. Avoid damaging pawl and spring pile-ups. Do not attempt to turn totalizer cam shaft in direction opposite to that shown in Fig. 5.

(1) Remove totalizer cover by loosening captive cover screw.

(2) Rotate totalizer shaft in proper direction (from bottom to top) until T2 springs (Fig. 5) rest in shaft depression as indicated by movement of springs.

(3) Depress reset latch toward bottom of totalizer.

(4) Rotate shaft in proper direction until T1 contacts operate as indicated by an upward movement of the reset latch.

(5) Do not allow shaft to move. Insert KS-16750, List 2 releaser or paper clip into hole 1 located near right-hand end of shaft. Do not disturb contact springs.

(6) Hold tool firmly so that right-hand end of shaft cannot move.

(7) Insert the second releaser or paper clip into one of four "Hole 2" holes in center of shaft. End of releaser or paper clip must not extend too far beyond shaft; to avoid damage to insulation of coil located directly beneath shaft.

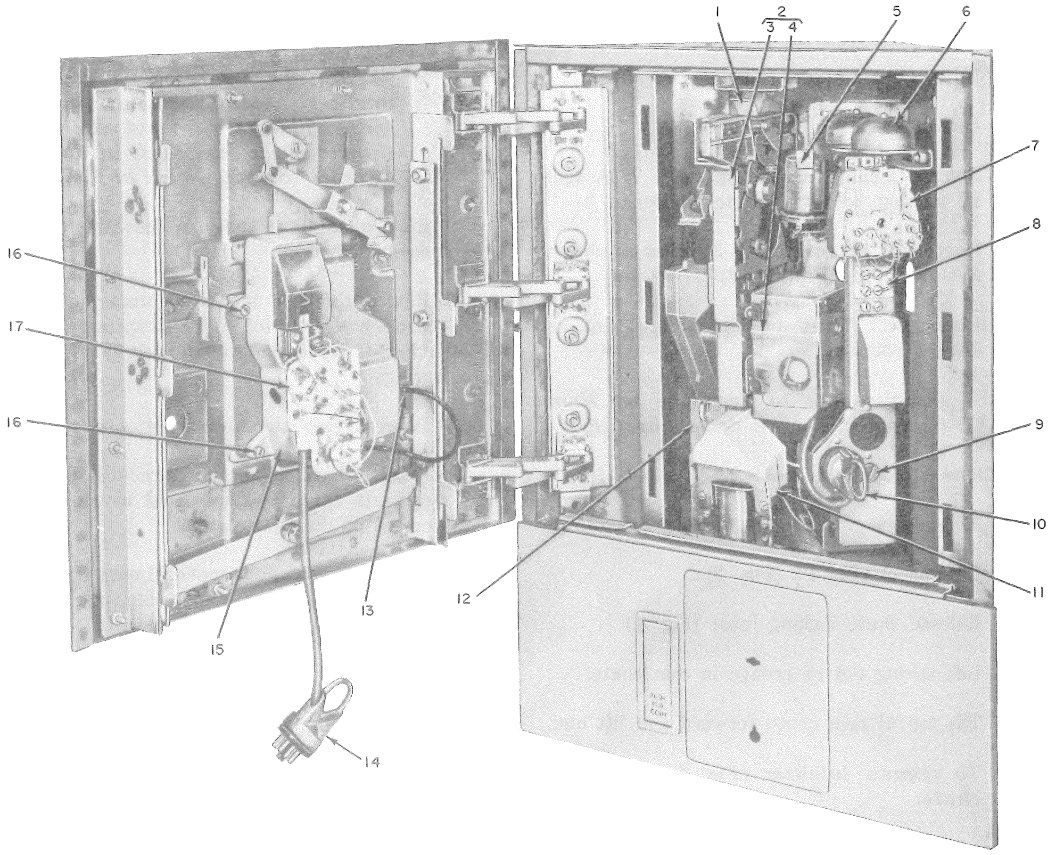
(8) Rotate second releaser or clip in proper direction until T2 springs come to rest in depression in shaft. This is zero rate position. Do not remove releasers or clips from holes in shaft.

(9) Set charge rate by rotating shaft in proper direction from the zero rate position according to Table C.

(10) Remove releasers or paper clips.

2.19 ***To check for correct totalizer setting:***

(1) Rotate shaft in proper direction until T2 springs rest in depression in shaft.



LEGEND

1—P-40Y144 LOCKING LEVER ASSEMBLY
2—P-15E428 CHUTE AND TOTALIZER ASSEMBLY
3—P-24E342 COIN CHUTE ASSEMBLY
4—P-15E579 TOTALIZER ASSEMBLY
5—303K MERCURY (A) RELAY AND P-21F297 BRACKET
6—C4A RINGER
7—4010B NETWORK
8—TB1
9—CHASSIS MOUNTING SCREW
10—P2
11—P-15E718 COIN RELAY AND HOPPER ASSEMBLY
12—P-15E730 RETURN CHUTE ASSEMBLY
13—P-15E444 COVER PLATE AND P-181678 BHM SCREW
14—P1
15—P-83B752 OR P-90D274 (2A1) OR P-26E153 OR P-90D275 (2A2) DIAL AND HOUSING ASSEMBLY
16—DIAL HOUSING MOUNTING SCREW
17—TB2

Fig. 3—Assembly of Parts (Typical)

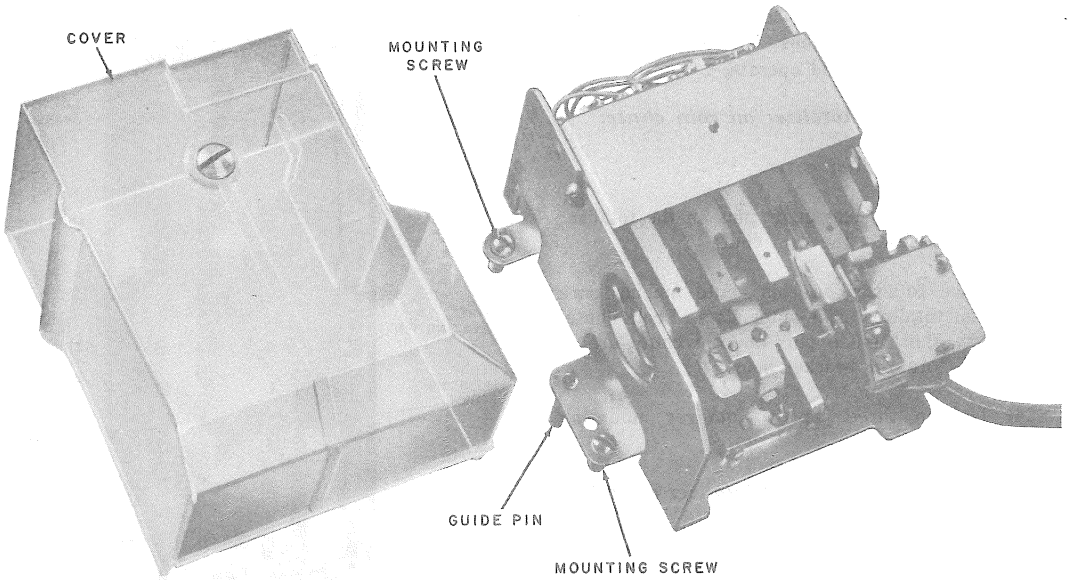


Fig. 4—Totalizer

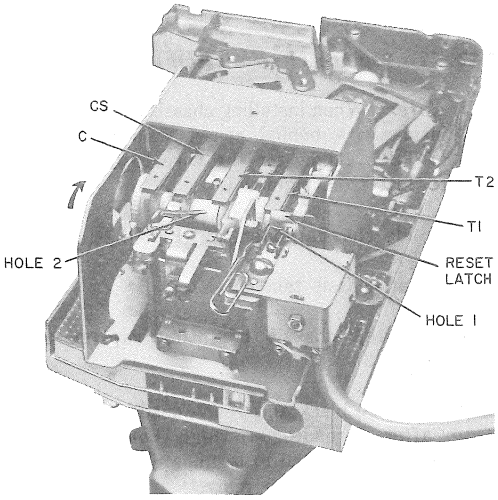


Fig. 5—Setting Totalizer Rate

TABLE C

SETTING INITIAL CHARGE RATE

INITIAL CHARGE RATE	ROTATE SHAFT IN PROPER DIRECTION (FROM BOTTOM TO TOP)
5 cents	One step
10 cents	Two steps
15 cents	Three steps
20 cents	Four steps
25 cents	Five steps
30 cents	Six steps

(2) Depress reset latch toward bottom of totalizer.

(3) Rotate shaft in proper direction, one step for each 5 cents of the exact initial rate desired.

(4) T1 springs should operate (indicated by reset latch moving) when initial rate has been reached.

- Example: For a 10-cent rate, shaft should be rotated two steps. On the second step, T1 springs should operate.

2.20 *To remount totalizer on coin chute:*

(1) Replace totalizer cover.

(2) Line up the long guide pins on the totalizer with holes in the coin chute.

(3) Place totalizer on coin chute making sure that totalizer arms enter slots in coin chute. Be sure short guide pins on coin chute are in holes in totalizer bracket holes.

(4) Tighten three captive totalizer mounting screws.

2.21 *To replace coin chute-totalizer assembly:*

(1) Place assembly on chute locating pins at rear of hopper assembly, and back of housing (Fig. 6).

Note: Ensure that reject chute, return chute, and coin return assemblies line up properly.

(2) Place spring in groove on coin chute.

(3) Lock spring in place by pushing chute locking lever down.

(4) Reconnect totalizer plug P2 to J2.

Chassis Assembly

2.22 *To remove chassis assembly:*

(1) Remove coin chute-totalizer assembly (2.16).

(2) Disconnect black and yellow leads from coin relay and carefully pull leads through guide hole on coin hopper.

(3) Loosen chassis mounting captive screw (Fig. 3).

(4) Pull chassis assembly out at bottom and slide down to remove.

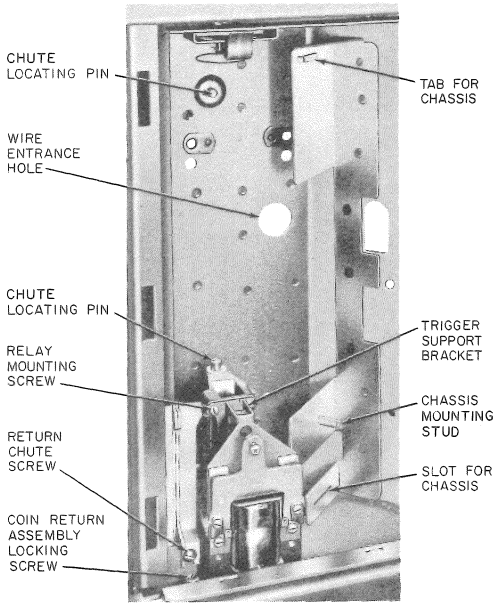


Fig. 6—Housing and Mounting Plate Assembly (Typical)

2.23 *To replace chassis assembly:*

Note: When installing chassis assembly, dress inside wire behind chassis and to the right of TB1. Allow for the wire to be connected to TB1 from right side.

(1) Slide chassis under tab (Fig. 6).

(2) Seat chassis tabs in slots.

(3) Tighten chassis mounting captive screw (Fig. 3).

(4) Replace black and yellow leads on coin relay after threading through hole in hopper. Connect yellow lead to terminal G and black lead to terminal 3 of coin relay.

Coin Receptacle (Cash Box)

2.24 The 2A-type coin telephone set is arranged for a 1B coin receptable. If a greater

capacity is desired, a 1C coin receptacle can be installed as follows:

(1) Remove 5A (cash compartment) door.

(2) Remove 1B coin receptacle.

(3) Remove false floor from bottom of cash compartment.

- Break spot weld at left front tab.
- Pry with large screwdriver or equivalent.

(4) Install 1C coin receptacle.

(5) Install 5A (cash compartment) door.

Instruction Cards

2.25 Instruction cards are not furnished and must be procured locally.

2.26 Instruction cards should meet the following size specifications which are in inches.

	UPPER CARD	LOWER CARD
Width	$6.130 \pm .005$	$6.130 \pm .005$
Height	$2.130 \begin{smallmatrix} +.015 \\ -.025 \end{smallmatrix}$	$2.840 \begin{smallmatrix} +.015 \\ -.025 \end{smallmatrix}$
Thickness	$.050 \begin{smallmatrix} +.006 \\ -.010 \end{smallmatrix}$	$.050 \begin{smallmatrix} +.006 \\ -.010 \end{smallmatrix}$
Corner Radius	.125	.125

2.27 ***To install card:***

(1) Push down with fingers (Fig. 7).

(2) Snap card in place.

(3) Ensure that card is seated properly in slot.

2.28 ***To remove card:***

(1) Push down with fingers.

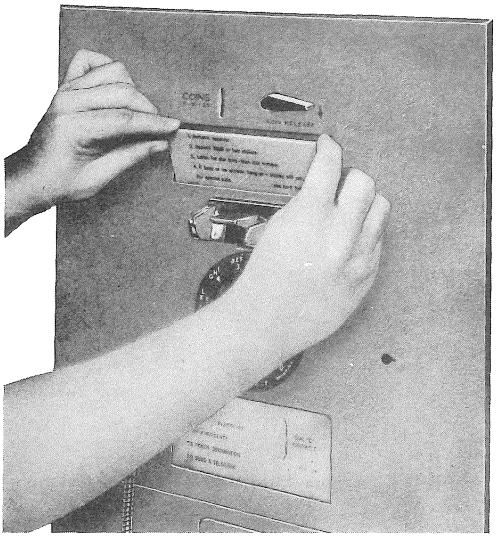


Fig. 7—Installing Instruction Card (Typical)

(2) Pry top out with small screwdriver or equivalent.

2.29 A gummed OUT-OF-SERVICE sticker (Form E-4914) is available in blocks of five for placing over coin slot when required.

Number Card (2A2 only)

2.30 The number card shall be furnished locally.

2.31 The P-21F947 card holder bracket, P-21F948 window and two hex nuts (Fig. 8) are shipped loose in the cash compartment.

2.32 Install number card as follows:

(1) Remove dial and housing assembly (3.13).

(2) Insert P-21F948 window in faceplate from rear (Fig. 9).

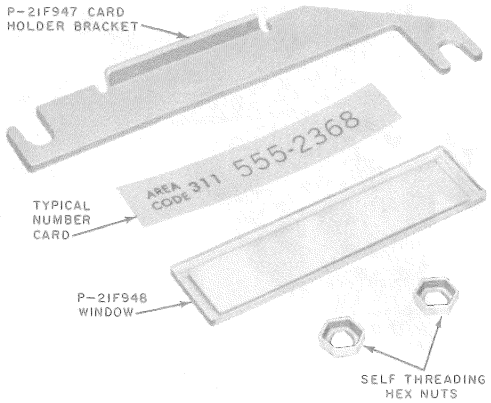


Fig. 8—Number Card and Associated Parts

(3) Insert number card in window (Fig. 9).

(4) Secure window and number card using the P-21F947 card holder bracket and two hex nuts (Fig. 10).

(5) Install dial and housing assembly (3.14).

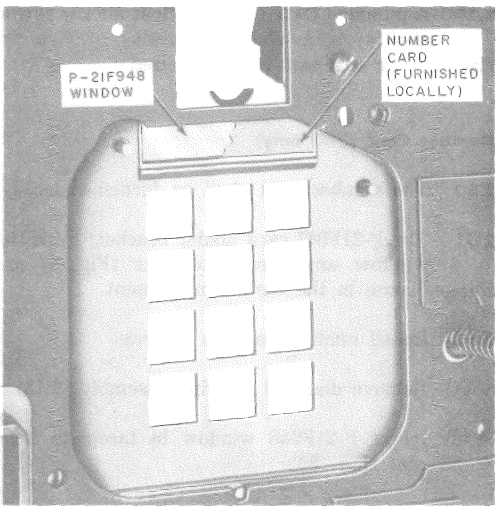


Fig. 9—Window and Number Card Installed in Faceplate (2A2)

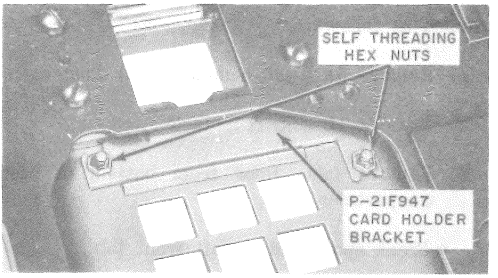


Fig. 10—Card Holder Bracket Installed (2A2)

WIRING

2.33 Select and place wire in accordance with sections covering inside wiring. Wire all coin telephone sets with triple conductor station wire to provide individual ground for each station. The ground connection for this conductor must be the same one used for signaling ground. (Refer to Section 460-100-201.)

2.34 Feed inside wire through wire entrance hole (Fig. 2 and 6) as set is mounted on backboard.

2.35 Dress wire behind chassis and run to right side of TB1.

2.36 Conceal wiring near telephone. If this is not possible, use approved moulding or tubing.

2.37 Locate protectors, connecting blocks, etc, where they will be inaccessible to coin telephone set user.

After installation has been completed, refer to Section 506-326-500 or 506-900-502 (Booklet) and verify if the coin telephone set is operating correctly.

3. MAINTENANCE

3.01 Maintenance of the 2A-type coin telephone set is limited to cleaning switch hook contacts and coin relay (HT) contacts, clearing of foreign objects from coin chute, and replacement of the following components:

- P-15E428 coin chute-totalizer assembly

- P-24E342 coin chute assembly
- P-15E579 totalizer assembly
- P-15E437 chassis assembly
- Instruction cards
- Number cards
- P-15E687 coin relay assembly
- P-15E730 return chute assembly
- P-21F546 coin return assembly
- C4A ringer
- P-83B752 or P-90D274 (2A1) or P-26E153 or P-90D275 (2A2) dial and housing assembly
- 8E-52 or 8S-52 dial (2A1)
- 35G3A or 35T3A dial (2A2)
- G3P-52 handset
- 303K mercury (A) relay

3.02 Refer to Part 2 for the removal and replacement of the following assemblies:

- Coin chute-totalizer assembly (2.16 and 2.21)
- Totalizer (2.17 and 2.20)
- Chassis assembly (2.22 and 2.23)
- Instruction cards (2.27 and 2.28)
- Number card (2.32)

Coin Relay

3.03 ***To remove coin relay:***

(1) Disconnect black and yellow leads.

(2) Remove two relay mounting screws on top front of coin relay (Fig. 6).

(3) Remove two hex head screws on sides of coin relay.

(4) Check that hopper trigger (Fig. 11) is in horizontal (up) position and pull off coin relay. Take care not to damage hopper trigger.

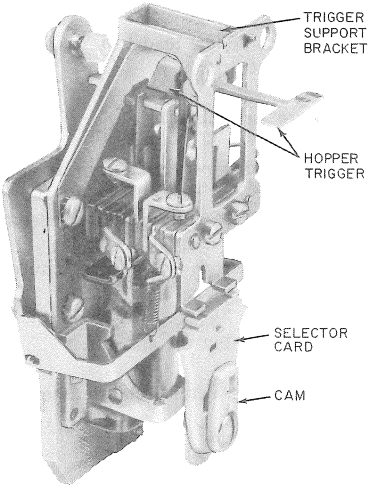


Fig. 11—Coin Relay

3.04 ***To replace coin relay:***

(1) Move vane on hopper to left (collect) position.

(2) With hopper trigger in nonoperated (or (horizontal) position, move relay into position until trigger enters T-shaped slot in hopper and trap lever tab just enters opening in selector card.

(3) Press down slightly on ear on left side of selector card and manually move armature forward to its operated position. Hold armature in this position.

(4) Move coin relay forward until square stem on vane enters hole in cam and mounting screw holes line up.

Note: Do not install relay if trigger support bracket (Fig. 12) is so distorted that mounting holes do not engage hopper bosses.

(5) Place and tighten evenly two mounting screws in top of coin relay and two hex head mounting screws in each side of relay.

(6) Make sure that trigger, armature, trap, and vane operate without binding.

(7) Connect yellow lead to terminal G and black lead to terminal 3.

Return Chute Assembly

3.05 ***To remove return chute assembly:***

(1) Remove coin chute-totalizer assembly (2.16).

(2) Loosen screw on return chute assembly (Fig. 6).

(3) Lift assembly up and off.

3.06 To replace return chute assembly, reverse procedure.

Coin Return Assembly

3.07 ***To remove coin return assembly:***

(1) Remove coin chute-totalizer assembly (2.16).

(2) Remove return chute assembly (3.05).

(3) Remove coin return assembly locking screw (Fig. 6).

(4) Insert finger in coin return and tilt top forward.

(5) Lift coin return. Pull coin return assembly out and up.

3.08 ***To replace coin return assembly:***

(1) Tilt top of coin return assembly toward set.

(2) Push coin return assembly into set.

(3) Push in and down on bottom of coin return assembly until flush with front of housing.

(4) Install coin return assembly locking screw. Tighten screw only enough to hold return assembly in place. Further tightening will bend screw.

(5) Replace return chute assembly (3.06).

(6) Replace coin chute-totalizer assembly (2.21).

Ringer

3.09 ***To remove C4 ringer:***

(1) Remove coin chute-totalizer assembly (2.16).

(2) Remove chassis assembly (2.22).

(3) Disconnect ringer leads.

(4) Unscrew ringer mounting screws and lift ringer off.

3.10 Replace C4 ringer by reversing procedure, making sure that locating pin on bottom of ringer is in grommet on chassis assembly. Make connections per Table D.

TABLE D

RINGER CONNECTIONS

LEAD COLOR	CONNECT TO
BK	TB1-T
R	TB1-R
S-R	Term. A (Network)
S	Term. K (Network)

Handset

3.11 ***To remove handset:***

(1) Disconnect leads.

(2) Loosen cord stay screw, located under dial housing.

(3) Remove P-181678 BHM screw, and P-15E444 cover plate.

(4) Pull cord out front of cover.

3.12 To replace handset, reverse procedure. Make connections per Table E.

TABLE E

HANDSET CONNECTIONS

LEAD COLOR	CONNECT TO	
	TOUCH-TONE	ROTARY
R	TB2-3	TB2-3
BK	TB2-5	TB2-6
W	TB2-7	TB2-2
W	TB2-8	TB2-8

Dial and Housing Assembly

3.13 ***To remove dial and housing assembly:***

(1) Remove four mounting screws (Fig. 3).

(2) Lift dial and housing assembly from cover.

Note: Handset cord will pull through cover to enable access to dial without disconnecting cord.

3.14 To replace dial and housing assembly, reverse procedure.

3.15 ***To remove dial:***

(1) Remove dial and housing assembly (3.13).

(2) Disconnect dial leads.

(3) Loosen two mounting screws on sides of dial through access holes in housing.

(4) Lift dial off.

Note: Remove and discard the dust cover before installing a new 8E or 8S dial.

3.16 To replace dial, reverse procedure, making sure that dial is properly seated on four locating pins. Make connections per Table F.

Coin Hopper

3.17 ***To remove coin hopper:***

(1) Remove coin relay (3.03)

(2) Remove cash compartment door

(3) Remove coin receptacle

(4) Remove two P-10E809 special screw assemblies from inside vault.

(5) Lift hopper out of set.

3.18 To replace coin hopper, reverse procedures.

303K Mercury (A) Relay

3.19 ***To remove 303K mercury (A) relay:***

(1) Remove coin chute-totalizer assembly (2.16).

(2) Remove chassis assembly (2.22).

TABLE F

DIAL CONNECTIONS

2A1			2A2		
DIAL LEADS			DIAL LEADS		
8E	8S	CONNECT TO	35G3A	35T3A	CONNECT TO
BL	BL	TB2-9	G	G	TB2-4
G	G	TB2-10	W	W	TB2-2
W	W	TB2-3	R	R	TB2-5
W	W	TB2-2	R-G	R-G	TB2-6
	Y	TB2-9	BK	BK	TB2-1
	Y	TB2-9	O-BK	O-BK	TB2-11
			O-R	O-R	TB2-12
			BL	BL	TB2-3
			W-BL	W-BL	TB2-7
				V	TB2-10
				O-W	TB2-10

(3) Remove P-10E809 screw assembly and P-21F297 bracket from relay.

(4) Remove relay from socket.

3.20 To replace 303K mercury (A) relay, reverse procedure.

Stuck Coins

3.21 When tests indicate foreign objects or stuck coins in coin chute-totalizer assembly:

(1) Operate coin release lever in attempt to clear objects in return chute.

(2) If trouble does not clear:

- Open door and faceplate assembly.
- Remove coin chute-totalizer assembly (2.16).
- Swing upper plate assembly open (Fig. 12).

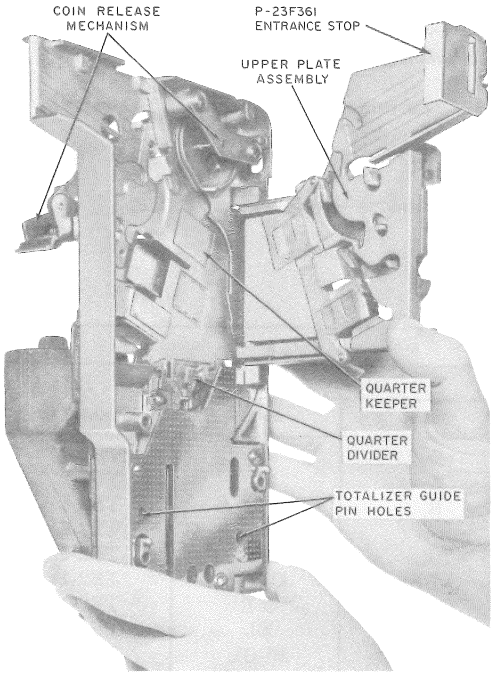


Fig. 12—Coin Chute Assembly

Exercise extreme care when closing the upper plate assembly. It should not make contact with the quarter divider Fig. 12 or the quarter divider will become damaged when the upper plate assembly is closed against it.

- Remove any foreign objects or stuck coins using an orange stick only.

Remove totalizer only when necessary to clear objects that cannot be dislodged from lower portion of coin chute. Exercise care.

- Clean off any foreign materials adhering to chute magnets.

(3) If no foreign objects are found and coins will not pass through chute, replace coin chute assembly.

Note: In early models, the quarter keeper, (Fig. 12), may become loose and prevent quarter passage. ***Do not*** attempt to repair this in the field.

(4) Install coin chute-totalizer assembly in housing (2.21).

(5) Coin chute should be tested by depositing coins with cover unit assembly both off and on housing.

ELECTRICAL TROUBLES

3.22 If electrical troubles are indicated refer to Section 506-326-400 (Connections), Section 506-326-500 (Tests), or Section 506-900-502 (Booklet)

CLEANING

Warning: KS-7860 petroleum spirits is highly flammable. Use safety precautions while it is being used.

3.23 The external surfaces of the coin telephone set may be cleaned with KS-7860 petroleum spirits or a suitable liquid wax such as Johnson's No. 7700 cleaning and polishing wax emulsion.

COIN TELEPHONE SETS

1C- AND 2C-TYPES

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1. GENERAL

1.01 This section includes identification, installation, operation tests and trouble analysis, maintenance, connections, and procedures for converting 1C- and 2C-type coin telephone sets to either the prepay (PP) or dial tone first (DTF) mode of operation.

1.02 The convertible 1C-type coin telephone sets (Fig. 1) replace the prepay-only 1A-type.

1.03 The convertible 2C-type coin telephone sets (Fig. 2) replace the prepay-only 2A-type.

1.04 The 1C1 set can be modified to a 1C2 by replacing the rotary dial-equipped P-90E400 cover unit assembly with a TOUCH-TONE dial-equipped P90E500 cover unit assembly. No wiring changes are necessary. No provision is made for modifying a 2C1 set to a 2C2.

1.05 All 1C- and 2C-type coin telephone sets are shipped wired for prepay service but can be converted in the field to dial tone first service. Refer to Part 8.

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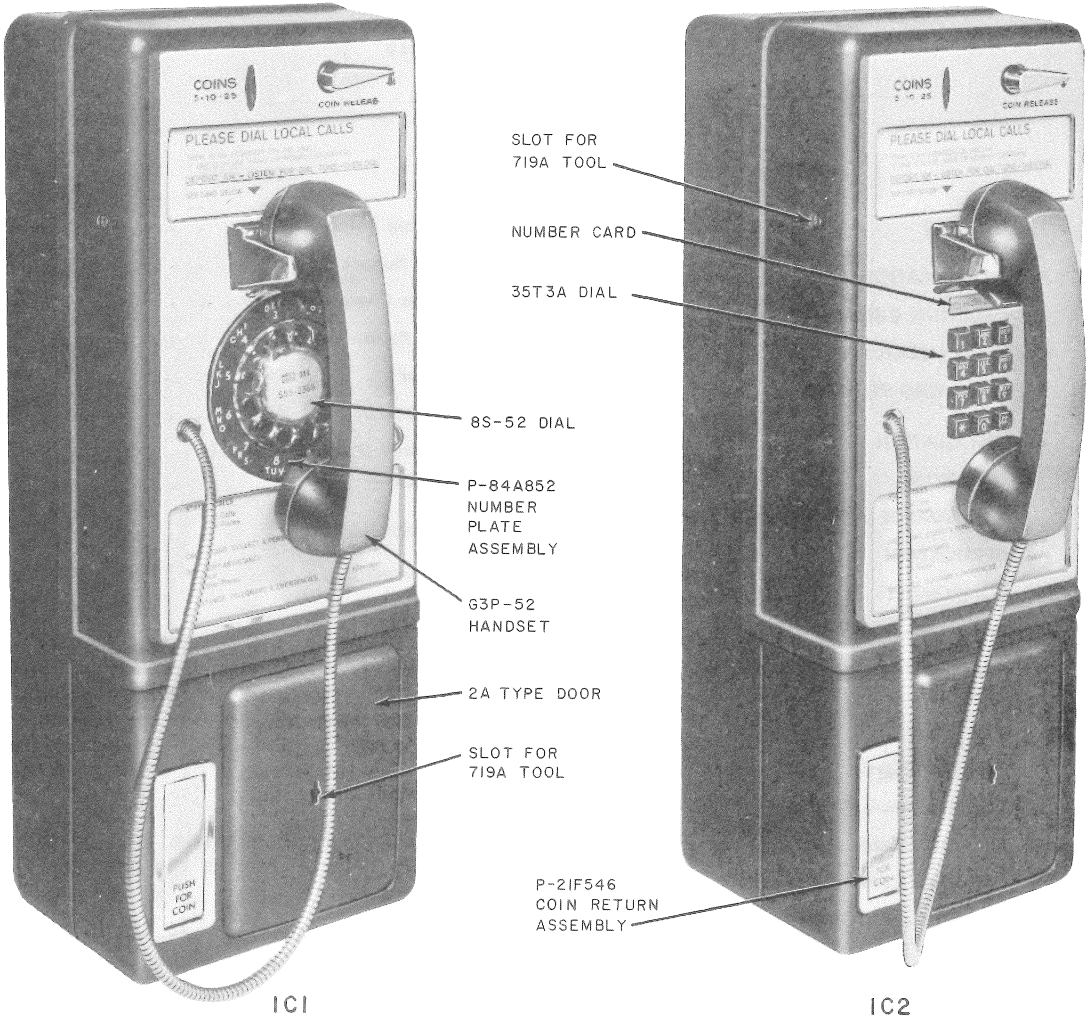


Fig. 1 — 1C-Type Coin Telephone Sets

1.06 Coin telephone sets converted to dial tone first can be used only with those central office switching systems that have been converted to dial tone first.

1.07 Overall dimensions of the 1C-type coin telephone sets are the same as the 1A-type.

- Height — 21 inches
- Width — 7-3/4 inches
- Depth — 6-1/4 inches

Note: The switch hook and handset extend 2-3/4 inches in front of the faceplate of 1C- and 2C-type sets.

1.08 Overall dimensions of the 2C-type coin telephone set are shown in Fig. 3.

2. IDENTIFICATION

ORDERING GUIDE

Set, Coin Telephone, 1C1*, 1C2*, 2C1-67A, or 2C2-67A

(a) *Replaceable Components for 1C1 (Fig. 4)*

- P-90E400* cover unit assembly
- P-84A852 number plate assembly
- G3P-52 handset†
- P90D274 dial and housing assembly
- 8S-52 dial‡
- 1AA chute
  1A chute
  1A totalizer
- 1A coin chassis
  C4A ringer
- 1AA coin relay
  1A coin relay
  P-15E717 coin hopper assembly
- P-15E730 return chute assembly
- P-21F546 coin return assembly
- 1B coin receptacle rail

(b) *Replaceable Components for 1C2 (Fig. 4)*

- P-90E500* cover unit assembly
- G3P-52 handset†
- P-90D275 dial and housing assembly
  35T3A 12-button TOUCH-TONE dial
- 1AA chute
  1A chute
  1A totalizer
- 1A coin chassis
  C4A ringer

(c) *Replaceable Components for 2C1 (Fig. 5)*

- 1AA chute
  1A chute
  1A totalizer
- 1A coin chassis
  C4A ringer
- 1AA coin relay
  1A coin relay
  P-15E717 coin hopper assembly
- P-15E730 return chute assembly
- P-21F546 coin return assembly
- G3P-52 handset†
- 1D coin receptacle rail
- 5A door
- P-87B052 number plate assembly
- P-90D274 dial and housing assembly
  8S-52 dial‡

(d) *Replaceable Components for 2C2 (Fig. 5)*

(1) Components for the 2C2 set are the same as for 2C1 with the following exceptions:

- P-90D275 dial and housing assembly
- 35T3A 12-button TOUCH-TONE dial
- P-87B052 numberplate assembly (not required)

(e) *Associated Apparatus for 1C-Type (order separately)*

- 2A door*
- 1B or 1C coin receptacle
- 1D or 1E coin receptacle cover
- 1A switch kit (alarm) (See Section 506-110-103)
- 257A alarm switch assembly (See Section 506-110-103)
- 30-Type lock (cash compartment) (See Section 506-110-103)
- 29A lock (cover unit assembly) (See Section 506-110-103)

* See Table A for color selection.

† A G13B handset (for impaired hearing) or G3S handset (waterproof) is available for use with the 1C/2C-type coin telephone sets but must be ordered separately. Refer to Section 501-211-102 for complete information on the handset.

‡ The fingerwheel (P-21F299) for the 8S dial is shipped loose and is to be installed in the field. The releasing hole has been partially plugged (requires sharp rap on KS-16750 releaser to pierce) to deter tampering; thus station number card should be in place before fingerwheel is installed on dial. Refer to Section 501-162-100 for complete information on the fingerwheel.

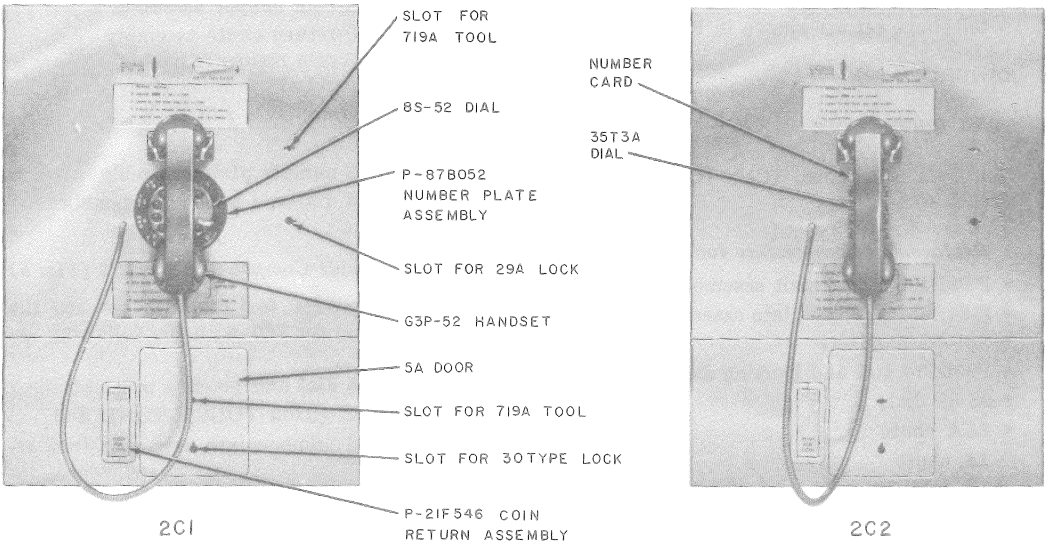
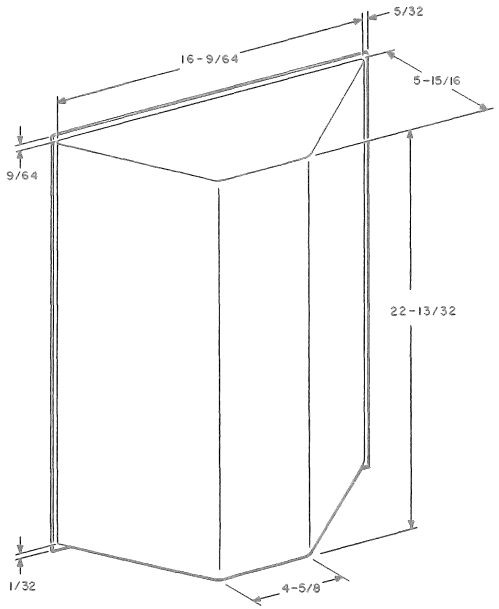


Fig. 2 — 2C-Type Coin Telephone Sets



NOTES:
1. ALL DIMENSIONS SHOWN ARE IN INCHES.
2. THE SWITCH HOOK AND HANDSET EXTEND 2-3/4 INCHES IN FRONT OF THE FACEPLATE.

Fig. 3 — Rear View of 2C-Type Showing Dimensions

- 719A tool (See Section 506-110-103)
- PIIC test cord* (Fig. 6)
- Security studs

(f) *Associated Apparatus for 2C-Type (order separately)*

- 1B or 1C coin receptacle
- 1D or 1E coin receptacle cover
- 30-Type lock (cash compartment) (See Section 506-110-103)
- 257A alarm switch assembly (See Section 506-110-103)
- 29A lock (door and faceplate assembly) (See Section 506-110-103)
- 719A tool (See Section 506-110-103)
- P11C test cord* (Fig. 6)
- 127A or 127B cover† (Fig. 7)
- Security studs

* Used for testing when access to inside of set is required.

† For use over the coin telephone set in installations not flush mounted.

TABLE A

COLOR ORDERING GUIDE

(1C-TYPE ONLY)

COLOR		HOUSING AND MOUNTING PLATE ASSEMBLY	2A DOOR	COVER UNIT ASSEMBLY
Black	-03	•	•	•
Chrome	-44		•	
Moss Green	-51	•	•	•

DESIGN FEATURES

1C-Type

(a) All parts are contained in a high-security steel housing; cover unit assembly has six locking points actuated by a 719A tool and is secured by a 29A lock. Cash compartment door has four locking points actuated by a 719A tool and is secured by a 30-type lock.

(b) Provision is made for use of four security studs. (Fig. 8).

(c) The single slot provided accepts U.S. nickels, dimes, and quarters.

(d) All sorting of coins is done internally by chute.

(e) Coin return is designed to deter stuffing.

(f) Transmission characteristics of 500-type telephone set.

(g) Arranged to accept 1B or 1C coin receptacle. When larger 1C is used, false floor in cash compartment must be removed.

(h) 1D or 1E coin receptacle cover may be used.

(i) Electrical connections of field replaceable assemblies are made by plug and jack arrangement except coin relay, ringer, and coin chassis.

(j) Will accept 1A alarm switch kit or 257A alarm switch.

(k) Designed for field conversion from prepay mode to dial tone first mode.

2C-Type

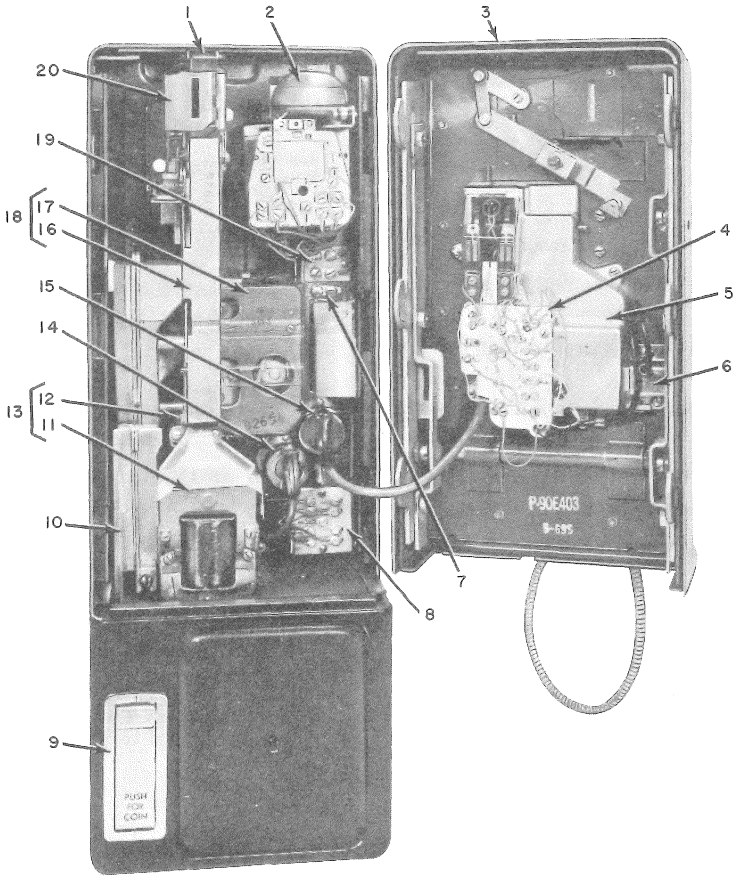
(a) All parts are contained in a high-security steel housing; door and faceplate assembly has six locking points actuated by a 719A tool and is secured by a 29A lock. Cash compartment door has five locking points; three are actuated by a 719A tool; two are stationary. Door is secured by a 30-type lock.

Note: Other design features are same as listed for 1C-type, except the 2C-type which will not accept the 1A switch kit.

(b) Refer to Fig. 9 for location of mounting screw and security stud holes.

OPERATING FEATURES

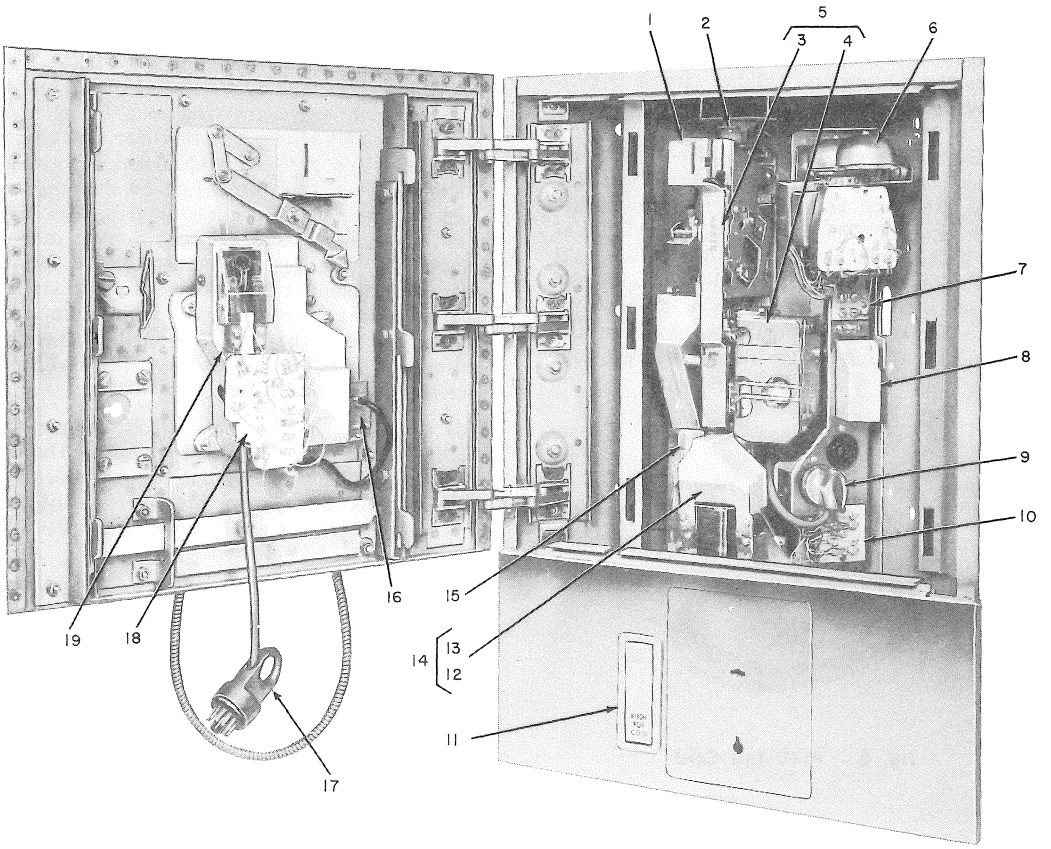
(a) For prepay operation, the coin telephone line circuit at the central office responds to ground start control. A start circuit must



LEGEND

1—P-40Y144 LOCKING LEVER ASSEMBLY
2—C4A RINGER
3—P-90E400 (1C1) OR P-90E500 (1C2) COVER UNIT ASSEMBLY
4—TB2
5—P-90D274 (1C1) OR P-90D275 (1C2) DIAL AND HOUSING ASSEMBLY
6—P-15E444 COVER PLATE AND P-181678 BHM SCREW
7—1A COIN CHASSIS
8—TB3
9—P-21F546 COIN RETURN ASSEMBLY
10—P-15E730 RETURN CHUTE ASSEMBLY
11—1A COIN RELAY
12—P-15E717 COIN HOPPER ASSEMBLY
13—1AA COIN RELAY
14—P2
15—P1
16—1A CHUTE
17—1A TOTALIZER
18—1AA CHUTE
19—TB1
20—P-23F361 ENTRANCE STOP

Fig. 4 — Assembly of Parts (1C-Type)



LEGEND

1—P-23F361 ENTRANCE STOP
2—P-40Y144 LOCKING LEVER ASSEMBLY
3—1A CHUTE
4—1A TOTALIZER
5—1AA CHUTE
6—C4A RINGER
7—TB1
8—1A COIN CHASSIS
9—P2
10—TB3
11—P-21F546 COIN RETURN ASSEMBLY
12—1A COIN RELAY
13—P-15E717 COIN HOPPER ASSEMBLY
14—1AA COIN RELAY
15—P-15E730 RETURN CHUTE ASSEMBLY
16—P-15E444 COVER PLATE AND P-181678 BHM SCREW
17—P1
18—TB2
19—P-90D274 (2C1) or P-90D275 (2C2) DIAL AND HOUSING ASSEMBLY

Fig. 5 — Assembly of Parts (2C-Type)

be completed between the ring (R) lead and the ground (G) lead at the coin telephone set before the dialing and talking circuit is connected and energized.

(b) System operation for dial tone first is on the basis of loop start, ground test for initial rate, and polarity reversal for subsequent deposits. This system will provide dial tone before coin deposit and will allow call completion to certain preselected numbers without a coin deposit. A start circuit with loop start control is completed between the ring (R) lead and the tip (T) lead at the coin telephone set and the dialing and talking circuit is connected and energized.

(c) Each single slot type coin telephone set is equipped with a totalizer mounted on the side of the coin chute. The totalizer cam shaft is rotated 10 degrees by each nickel deposited, 20 degrees by each dime, and 50 degrees by each quarter. Each cog (10 degrees) on the gear wheel represents a 5-cent deposit increment. The totalizer can be set for an initial rate of any amount from 5 cents to 45 cents in increments of 5 cents. A call cannot be made, except as described in (b), until the preset initial rate has been deposited. All totalizers are preset for a 10-cent initial rate.

(d) Operator identification of coin deposits is by beep tones generated by an oscillator. A nickel is identified by one beep, a dime by two beeps, and a quarter by five rapid beeps. These tones are not audible in the handset.

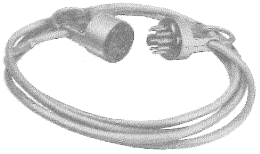


Fig. 6 — P11C Test Cord

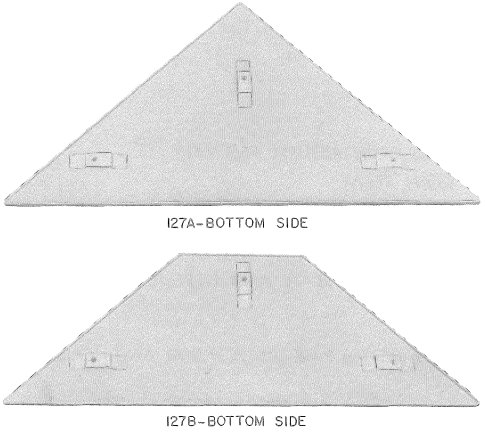


Fig. 7 — 127A and 127B Covers

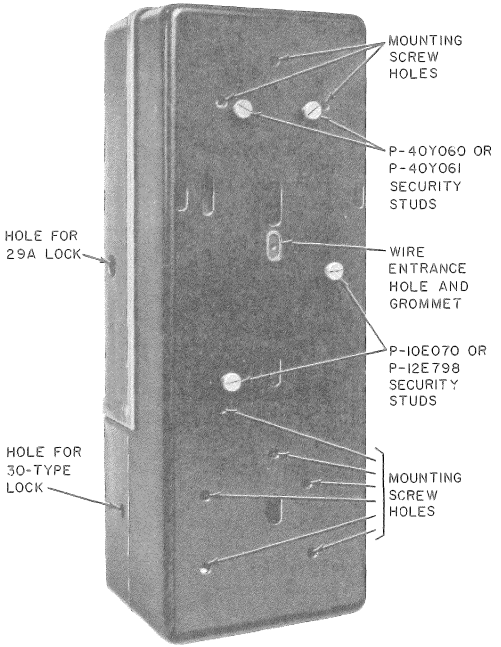

MOUNTING SCREW HOLES
P-40Y060 OR P-40Y061 SECURITY STUDS
HOLE FOR 29A LOCK
WIRE ENTRANCE HOLE AND GROMMET
P-10E070 OR P-12E798 SECURITY STUDS
HOLE FOR 30-TYPE LOCK
MOUNTING SCREW HOLES

Fig. 8 — Location of Mounting Screw Holes and Security Studs in 1C-Type

3. INSTALLATION

LOCATION

(a) The 1C-type coin telephone can be installed in/on the following:

- 178A-3 backboard
- 10- and 11-type booths
- KS-14611 outdoor booth
- KS-16797 universal booth
- KS-19206 curved door booth
- KS-19267 coin telephone shelf
- KS-19340 wood booth
- KS-19425 indoor-outdoor booth

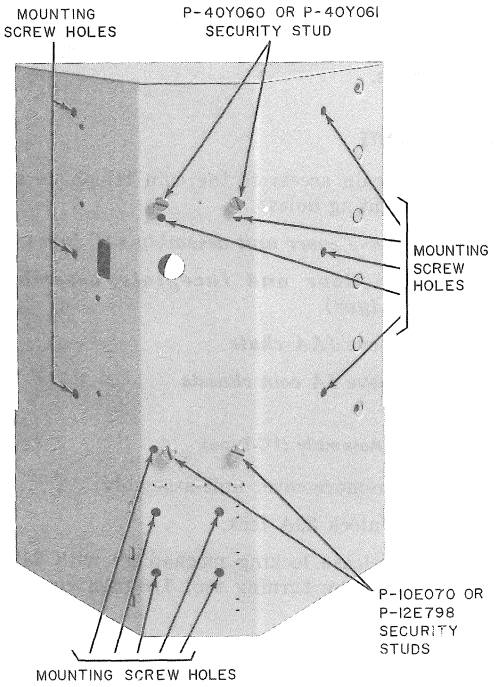


Fig. 9 — Location of Mounting Screw Holes and Security Studs in 2C-Type

- KS-19426 walk-up, drive-up mounting
- KS-19580 outdoor booth
- KS-19945 shelf
- KS-20194 wedge shelf
- KS-20255 telephone kiosk.

(b) The 2C-type coin telephone set can be installed in the following:

- KS-19206 curved door booth
- KS-19340 wood booth
- KS-19426 walk-up, drive-up mounting
- KS-19442 deluxe glass booth
- KS-19681 shelf
- KS-20194 wedge shelf
- A wall that will allow the phone to be recessed.

(c) Consider the following:

- Accessibility to customers
- Sufficient light
- Privacy
- Minimum noise and vibration
- Absence of grease, smoke, or dust
- Clean surroundings
- Clearance from moving machinery, piled merchandise, or narrow aisles
- Mounting surfaces — Consult a supervisor before locating coin telephone set on finishes that would be expensive to repair if the set is removed.
- Inductive effects — Locate telephone and associated wiring at least 6 inches from neon fixtures, transformers, or other interference-causing equipment.

BACKBOARDS AND SECURITY STUDS

(a) Refer to Section 506-110-105 for complete information on backboards and observe the following:

When mounting the coin telephone set, a vertical surface must be provided. A tilt greater than 1-1/2 degrees in any direction can cause chute malfunction. A vertical surface may be determined by the following steps:

(1) Place a spirit level vertically against the mounting surface on which the set is to be installed.

(2) When a vertical reading is obtained, the end of the level opposite the point of contact shall be no farther from the mounting surface than shown in Table B.

(3) The left to right mounting axis shall also be within 1-1/2 degrees of true vertical.

TABLE B

METHOD OF DETERMINING

A VERTICAL SURFACE

SPIRIT LEVEL LENGTH	MAXIMUM ALLOWABLE DISTANCE OUT OF PLUMB
18 inches	15/32 inch
24 inches	5/8 inch
30 inches	25/32 inch
36 inches	15/16 inch

(b) Refer to Fig. 8 and 9 and Tables C and D for security stud requirements.

Use security studs with short thread length in the two top holes. Use long thread length studs in the two bottom holes. Top studs must be flush or under flush with inside of backplate to avoid interference with chute. Security studs are not furnished and must be ordered separately.

APPLICATION

1C-Type

(a) Refer to Table C.

2C-Type

(a) To fully recess a 2C set in a wall:

(1) Ensure that the wall will accept the set.

(2) Refer to Fig. 3 for dimensions of the set.

(3) Cut a hole in the wall

- Height — 22-1/2 inches
- Width — 16-1/4 inches
- Depth — 6 inches

Ensure that the lip of the faceplate overlaps the wall around the hole. If security studs are used, top of hole must be enlarged approximately 1/2-inch and a false panel (procured locally) provided to close the extra opening.

(b) Refer to Table D for all other applications.

COMPONENTS

(a) To gain access to the coin telephone set mounting holes:

- Remove ***cover unit assembly (1C-type)***
- Open ***door and faceplate assembly (2C-type)***
- Remove ***1AA chute***
- Remove ***1A coin chassis***

Cover Unit Assembly (1C-Type)

(a) To remove cover unit assembly:

(1) Unlock 29A lock.

(2) Release locking mechanism with 719A tool by turning tool 1/8-turn counterclockwise.

(3) Pull cover forward about 3 inches to gain access to plug P1.

(4) Disconnect plug P1 (Fig. 4) by pulling straight out as cover is carefully lifted off.

TABLE C

APPLICATION OF 1C-TYPE

BACKBOARD, BOOTH, SHELF, MOUNTING, OR KIOSK	USE BACKBOARD FURNISHED	USE OTHER THAN BACKBOARD FURNISHED	P-23F790 1/4-20 X 5/8 HARDENED RHM SCREWS FURNISHED (USE 7 MINIMUM)	SECURITY STUDS				REMARKS
				SHORT SHOULDER		LONG SHOULDER		
				P-40Y060 (SHORT THREADS)	P-10E070 (LONG THREADS)	P-40Y061 (SHORT THREADS)	P-12E798 (LONG THREADS)	
178A-3 Backboard			•	2	2			Refer to Section 506-110-105
10- and 11-Type Booths		D-179939 or D-179940 Kit of Parts	•	2	2			
KS-14611 Booth	•		•	2	2			
KS-16797 Booth		B-190387 Backboard	•			2	2	Refer to Section 508-230-100
KS-19206 Booth		KS-19206 List 6 Installation Kit	•	2	2			Refer to Section 508-115-200
KS-19267 Shelf	•		•	2	2			
KS-19340 Booth		KS-19340, List 53 Backboard	•	2	2			Refer to Section 506-110-105
KS-19425 Booth	•		•			2	2	
KS-19426 Mounting		KS-19426, List 7 Installation Kit	•			2	2	Refer to Section 508-470-200
KS-19580 Booth	•		•	2	2			
KS-19945 Shelf	*		•			2	2	
KS-20194 Shelf		178A-3 Backboard	•	2	2			
KS-20255 Kiosk	•		•			2	2	Refer to Section 508-355-100

* 178A backboard normally furnished unless otherwise specified.

TABLE D

APPLICATION OF 2C-TYPE

BOOTH, SHELF, OR MOUNTING	USE BACKBOARD FURNISHED	USE OTHER THAN BACKBOARD FURNISHED	P-23F790 1/4-20 X 5/8 HARDENED RHM SCREWS FURNISHED (USE 7 MINIMUM)	SECURITY STUDS				COVER*		REMARKS
				SHORT SHOULDER		LONG SHOULDER				
				P-40Y060 (SHORT THREADS)	P-10E070 (LONG THREADS)	P-40Y061 (SHORT THREADS)	P-12E798 (LONG THREADS)	127A	127B	
KS-19206 Booth		KS-19206, List 7 Installation Kit	•	2	2				•	
KS-19340 Booth		KS-19340, List 54 Backboard	•	2	2			•		Refer to Section 508-111-200
KS-19426 Mounting	•		•			2	2			Refer to Section 508-470-200
KS-19442 Booth		KS-19340, List 54 Backboard	•	2	2			•		
KS-19681 Shelf	•		•							
KS-20194 Shelf	•		•	2	2					Refer to Section 508-122-100

* Three No. 8-32 by 3/16 RHM screws are furnished with cover for installation.

Door and Faceplate Assembly (2C-Type)

(a) To open door and faceplate assembly:

(1) Unlock 29A lock.

(2) Release locking mechanism with 719A tool by turning 1/8-turn counterclockwise.

(3) Open door approximately 3 inches to gain access to plug P1 (Fig. 5).

(4) Disconnect P1 by pulling straight out as door is opened.

Exercise care to keep the set from tipping over when door is opened.

1AA Chute

(a) To remove chute:

(1) Disconnect plug P2 (Fig. 4 or 5).

(2) Release chute locking lever.

(3) Lift spring out of groove in chute.

(4) Tilt top of chute forward and lift out.

(b) To remove totalizer from chute:

Do not damage totalizer arms when removing or replacing totalizer on chute or when returning damaged totalizers to service center. Do not move screws that are sealed with glyptal. When returning totalizers or chutes to service center, reuse packing material from which the new item was removed.

(1) Unscrew three captive-type mounting screws (Fig. 10) from chute.

(2) Carefully remove totalizer from chute.

(c) To reset totalizer rate:

Note: Totalizers are preset at the factory for an initial 10-cent rate. If initial rates other than 10 cents are required, they may be reset (see Fig. 11). Two KS-16750, List 2 releasers or two paper clips are used to set the totalizer.

Use extreme care when resetting totalizer. Avoid damaging pawl and spring pile-ups. Do not attempt to turn totalizer cam shaft in direction opposite to that shown in Fig. 11.

(1) Remove transparent totalizer cover by loosening captive cover screw.

(2) Rotate totalizer shaft in proper direction (from bottom to top) until T2 springs (Fig. 11) rest in depression in shaft as indicated by movement of springs.

(3) Depress reset latch toward bottom of totalizer.

(4) Rotate shaft in proper direction until contacts T1 operate as indicated by an upward movement of the reset latch.

(5) Do not allow shaft to move. Insert KS-16750, List 2 releaser or paper clip into hole 1 located near right-hand end of shaft. Do not disturb contact springs.

(6) Hold tool firmly so that right-hand end of shaft cannot move.

(7) Insert the second releaser or paper clip into one of the four "Hole 2" holes in center of shaft. Do not allow end of pin or clip to extend too far beyond shaft; this may damage insulation of coil located directly beneath shaft.

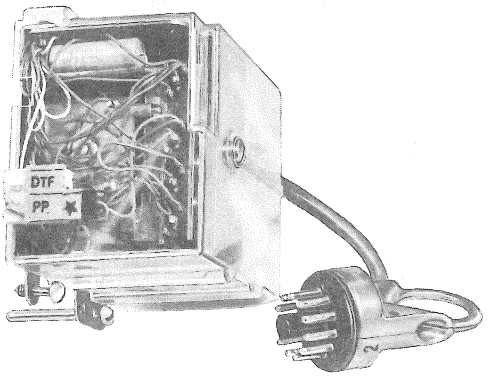


Fig. 10 — 1A Totalizer

(8) Rotate second releaser or clip in proper direction until T2 springs come to rest in depression in shaft. This is zero rate position. Do not remove releasers or clips from holes in shaft.

(9) Set charge rate by rotating shaft in proper direction from the zero rate position according to Table E.

TABLE E

SETTING INITIAL CHARGE RATE OF TOTALIZER

INITIAL CHARGE RATE	ROTATE SHAFT IN PROPER DIRECTION (FROM BOTTOM TO TOP)
5 cents	One step
10 cents	Two steps
15 cents	Three steps
20 cents	Four steps
25 cents	Five steps
30 cents	Six steps

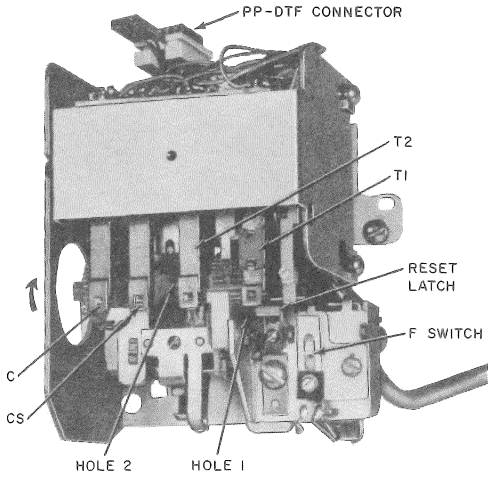


Fig. 11 — Setting Totalizer Rate

(10) Remove releasers or paper clips.

(d) To check for correct totalizer setting:

(1) Rotate shaft in proper direction until T2 springs rest in depression in shaft.

(2) Depress reset latch toward bottom of totalizer.

(3) Rotate shaft in proper direction, one step for each 5 cents of the exact initial rate desired.

(4) T1 springs should operate (indicated by reset latch moving forward) when initial rate has been reached.

Example: For a 10-cent rate, shaft should be rotated two steps. On the second step, T1 springs should operate.

(e) To install totalizer on chute:

(1) Replace totalizer cover.

(2) Line up the long guide pins on the totalizer with holes in the chute.

(3) Place totalizer on chute making sure that totalizer arms enter slots in chute. Be sure short guide pins on chute are in mating totalizer bracket holes.

(4) Tighten three captive totalizer mounting screws.

(f) To install chute in set:

(1) Place chute on locating pins at rear of hopper assembly, and back of housing (Fig. 12 and 13).

Note: Ensure that reject chute, return chute, and coin return assemblies line up properly.

(2) Place spring in groove on chute.

(3) Lock spring in place by pushing chute locking lever down.

(4) Reconnect totalizer plug P2 to J2.

1A Coin Chassis

(a) To remove coin chassis:

(1) Remove chute.

(2) Disconnect (BK) and (Y) leads from coin relay and carefully pull leads through guide hole on coin hopper.

(3) Loosen chassis mounting captive screw.

(4) Pull chassis assembly out at bottom and slide down to remove.

(b) To install coin chassis:

Note: When installing coin chassis assembly, dress inside wire behind chassis and to the right of TB1. Allow for wires to be connected to TB1 from right side.

(1) Slide chassis under tab (Fig. 12 and 13).

(2) Seat chassis tabs in slots.

(3) Tighten chassis mounting captive screw.

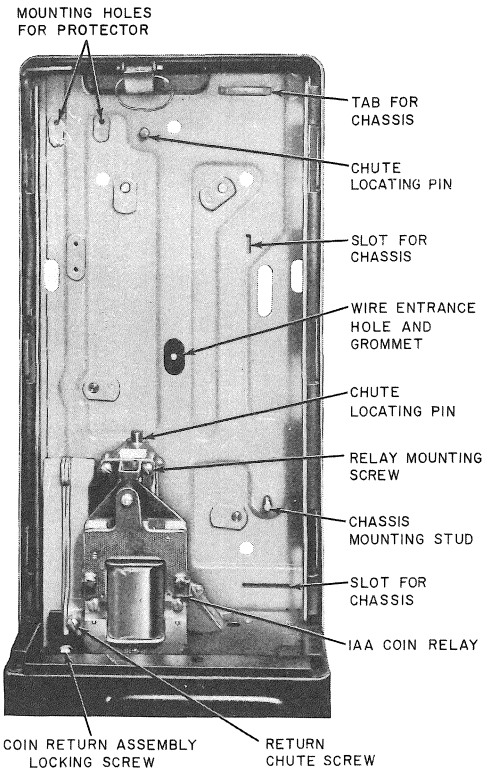


Fig. 12 — Housing and Mounting Plate Assembly (1C-Type)

(4) Replace (BK) and (Y) leads on coin relay after threading through hole in hopper. Connect (Y) lead to terminal G and (BK) lead to terminal 3 of coin relay.

Coin Receptacle (Cash Box)

(a) The coin telephone set is arranged for a 1B coin receptacle. If a greater capacity is desired, a 1C coin receptacle can be installed as follows:

(1) Remove cash compartment door.

(2) Remove 1B coin receptacle.

(3) Remove false floor from bottom of cash compartment.

- Break spot weld at left front tab
- Pry with large screwdriver or equivalent

(4) Install 1C coin receptacle.

(5) Install cash compartment door.

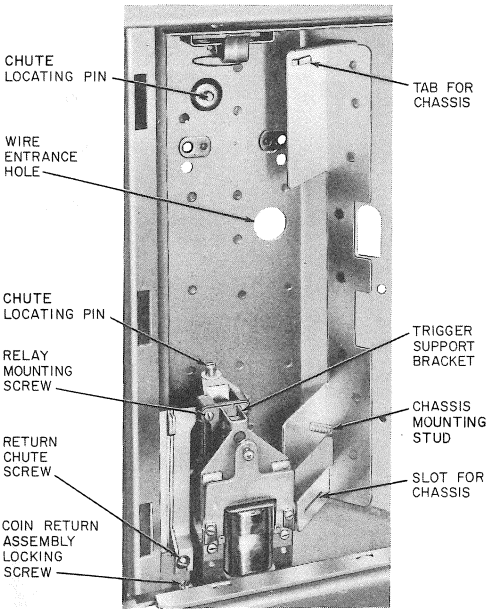


Fig. 13 — Housing and Mounting Plate Assembly (2C-Type)

Instruction Cards (1C-Type)

(a) Instruction cards are not furnished and must be procured locally.

(b) Instruction cards should meet following size specifications which are in inches:

	UPPER CARD	LOWER CARD
Width	6.130 ± .005	6.130 ± .005
Height	2.130 $^{+.015}_{-.025}$	2.840 $^{+.015}_{-.025}$
Thickness	.050 $^{+.006}_{-.010}$	.050 $^{+.006}_{-.010}$
Corner Radius	.125	.125

(c) To install card:

- Push up with fingers (Fig. 14)
- Snap card in place
- Ensure that card is seated properly in slot

(d) To remove card:

- Push up with fingers
- Pry bottom out with small screwdriver or equivalent

(e) A gummed OUT-OF-SERVICE sticker (Form E-4914) is available in books of five. Place over coin slot when required.

Instruction Cards (2C-Type)

(a) See (a) and (b) under 1C-type.

(b) To install card:

- Push down with fingers (Fig. 15)
- Snap card in place
- Ensure that card is seated properly in slot

(c) To remove card:

- Push down with fingers
- Pry top out with small screwdriver or equivalent

(d) See (e) under 1C-type.

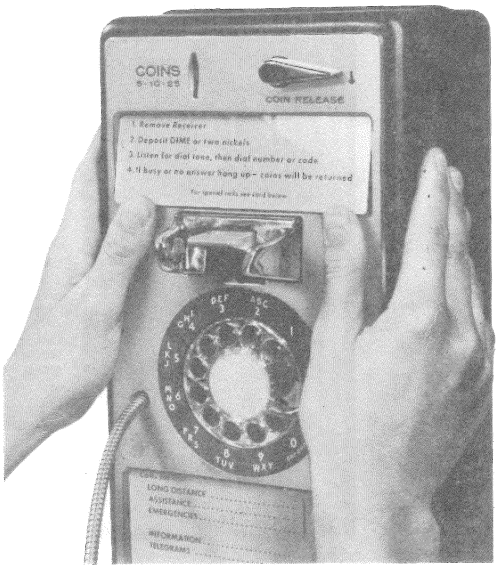


Fig. 14 — Installing Instruction Cards (1C-Type)

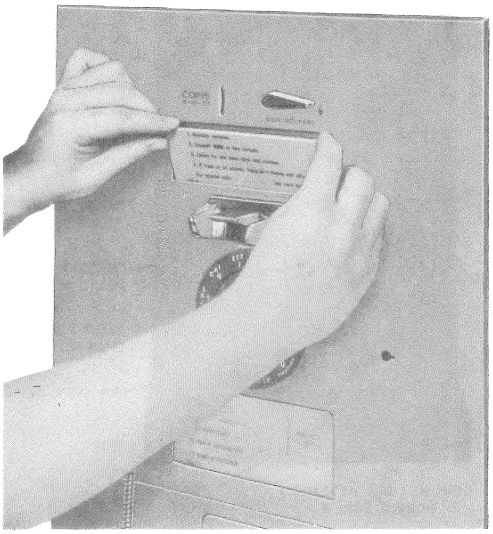


Fig. 15 — Installing Instruction Cards (2C-Type)

Number Card (TOUCH-TONE Only)

(a) The number card shall be furnished locally.

(b) A P-21F947 card holder bracket, P-21F948 window, and two hex nuts (Fig. 16) are packaged separately and shipped in the cash compartment.

(c) Install number card as follows:

(1) Remove dial housing.

(2) Insert P-21F948 window in faceplate from rear (Fig. 17).

(3) Insert number card in window (Fig. 17).

(4) Secure window and number card using the P-21F947 card holder bracket and two hex nuts (Fig. 18).

(5) Install dial housing.

WIRING

(a) Select and place wire in accordance with sections covering inside wiring. Wire all coin telephone sets with triple conductor station wire to provide individual ground for each station. The ground connection for this conductor must be the same one used for signaling ground. (See Section 460-100-201.)

(b) Feed inside wire through wire entrance hole (Fig. 12 or 13) as set is mounted on backboard.

(c) Dress wire behind chassis and run to right side of TB1.

(d) Conceal wiring near telephone. If this is not possible, use approved molding or tubing.

(e) Locate any protectors, connecting blocks, etc, where they will be inaccessible to person using coin telephone set. A 123A1A protector can be installed inside a 1C-type set when manufactured as shown in Fig. 12, using two P-205607 screws (8-32 X 1/2 brass RHM or equivalent) provided separately. Take care that lead dress does not interfere with chute operation if a protector is used. No provisions are provided for a protector in a 2C-type set.

After installation has been completed, refer to Part 4 or 5 and verify if the coin telephone is operating correctly.

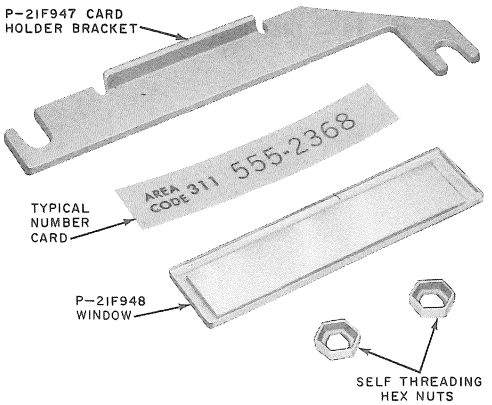


Fig. 16 — Number Card and Associated Hardware (TOUCH-TONE)

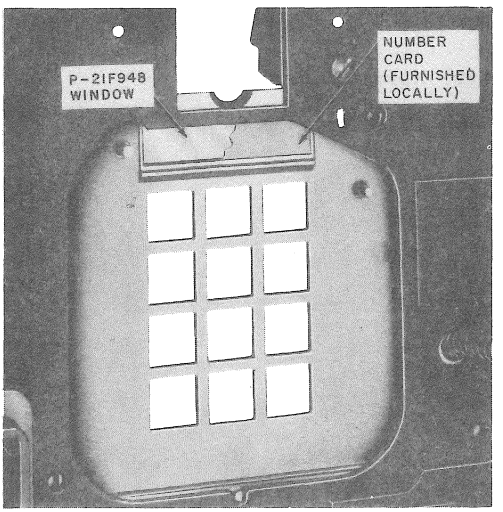


Fig. 17 — Window and Number Card Installed in Faceplate (TOUCH-TONE)

4. OPERATION TESTS AND TROUBLE ANALYSIS (PREPAY MODE)

Note: These operation tests should be performed when a new 1C- or 2C-type coin telephone set wired in the prepay mode is installed, when a 1A- or 2A-type set has been converted to a 1C- or 2C-type in the prepay mode, or when maintenance checks are made.

On trouble reports of coins collected or returned in error, try to obtain area code and telephone number of called party to facilitate tracing trouble in central office.

4.01 *Tests Include*

A. Totalizer and Coin Relay Operation (On-Hook)

B. Totalizer Operation (Off-Hook)

C. Dial Shorting Test

D. Coin Relay Bias Margin Test

E. Coin Tone Signaling

F. Returning Set to Normal Operation

4.02 *Apparatus Required*

(a) P11C Cord (Fig. 6)

(b) 1011B Test Set or equivalent

(c) Coins: 1 penny, 2 nickels, 1 dime, 2 quarters

(d) 146B Bias Margin Gauge (Fig. 19)

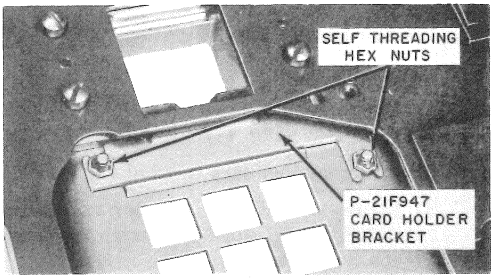


Fig. 18 — Card Holder Bracket Installed (TOUCH-TONE)

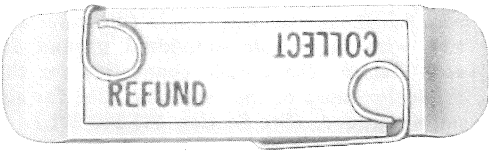


Fig. 19 — 146B Bias Margin Gauge

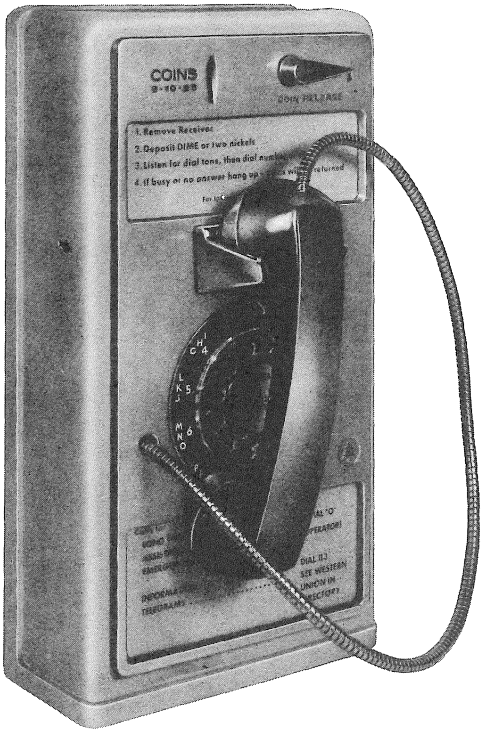


Fig. 20 — Cover Unit With Handset Inverted

4.03 *Preparation*

STEP	ACTION	VERIFICATION
Tests A, B, C, D, and E		
1	Invert handset on switchhook (1C-type only) (Fig. 20) *Note:* Prevents armored cord from pushing handset off switchhook when cover is removed.	
2	Remove cover unit assembly (1C-type) or open door and faceplate assembly (2C-type) and disconnect plug P1. Place cover unit assembly (1C-type) on firm level surface.	
3	Connect P11C cord between plug P1 and jack J1 of coin chassis.	
4	Ensure that the plug, on the totalizer is in the PP position.	

In the following tests, readout refers to operation of totalizer and generation of beeps by coin signal oscillator. Initial rate set for 10 cents.

4.04 *Method*

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
A. Totalizer and Coin Relay Operation (On-Hook)					
5	Deposit quarter in chute.	Totalizer operates and then steps back to home position. Coin relay refunds coin.	No readout.	Plugs P1 and P2 reversed.	Reconnect properly.
			Note: An overload in the central office may appear to be a failure in some instances. Before assuming failure, wait and repeat test.	Totalizer plug in DTF position.	Reconnect properly.
				Central office overload.	An overload in the central office may appear to be a failure in some instances. Before assuming failure, allow CO adequate time to provide line.
				TB3 not wired correctly.	See Table L.
				Coin relay HT contact not making.	Clean contacts or replace coin relay.
				Switchhook transfer contacts SH1 (NC) not making.	Clean contacts or replace dial and housing assembly.
				Defective totalizer	Replace defective apparatus
				Defective coin relay	
				Defective chassis	
				Defective handset	
				Defective dial	
				Defective wiring in dial and housing assembly.	
			No refund.	Switchhook contacts SH2 or SH4 not breaking.	Adjust contacts or replace dial and housing assembly.
			Note: If coin is not refunded, repeat with a second quarter before assuming failure. Cam shaft could be in such a position initially that no response would be obtained from the CO.	Defective totalizer.	Replace totalizer.
				Defective CO coin trunk.	Refer to test center.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
6	Deposit nickel.	Same as Step 5.	No readout.	Switchhook transfer contacts SH3 (NC) not making.	Clean contacts or replace dial and housing assembly.
				TB2 not wired correctly.	See Tables K and M.
				Defective wiring in dial and housing assembly.	Replace dial and housing assembly.
				Central office overload.	Same as Step 5.
7	Deposit dime.	Same as Step 5.	No readout.	Central office overload.	Same as Step 5.
B.	**Totalizer Operation (Off-Hook)**				
	Note: Totalizer set for an initial rate of 10 cents.				
5	Lift handset and deposit nickel in coin chute.	Totalizer cam rotates 1 step. No dial tone.	Readout obtained, dial tone heard.	TB2 not wired correctly.	See Tables K and M and Fig. 24 or 26.
				TB3 not wired correctly.	See Table L.
				Initial rate set for 5 cents.	Reset totalizer (Part 3).
				T1 contacts remain latched after refund.	Replace totalizer.
				Switchhook transfer contacts SH3 (NC) not breaking (Rotary only).	Adjust contacts or replace dial and housing assembly.
				Defective chassis or chassis wiring.	Replace chassis.
				Defective wiring in dial and housing assembly.	Replace dial and housing assembly.
6	Deposit second nickel.	Totalizer cam rotates an additional step, then steps back to home position; dial tone is heard.	No readout.	TB2 not wired correctly.	See Tables K and M and Fig. 24 or 26.
				Switchhook contacts SH2 or SH4 (NO) not making.	Clean contacts or replace dial and housing assembly.
				Totalizer set for more than initial rate.	Reset totalizer rate (Part 3).
				Defective wiring in dial and housing assembly.	Replace dial and housing assembly.
				T1 contacts (NO) not making.	Replace totalizer.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
6 (Cont)				F contacts (NC) not making.	Replace totalizer.
			No dial tone or reduced dial tone level.	TB2 not wired correctly.	See Tables K and M and Fig. 24 or 26.
				Switchhook transfer contacts SH1 (NO) not making.	Clean contacts or replace dial and housing assembly.
				Dial off-normal contacts not breaking (Rotary only).	Replace dial and housing assembly.
				Defective wiring in dial and housing assembly.	Replace defective apparatus
				Defective chassis	
				Defective handset	
				Defective dial	
			Coins return after readout with no dial tone.	TB2 not wired correctly.	See Tables K and M and Fig. 24 or 26.
				TB3 not wired correctly.	See Table L.
				Switchhook contacts SH2 or SH4 (NO) not making.	Clean contacts or replace dial and housing assembly.
				Open dial (Rotary only).	Replace defective apparatus
				Defective chassis	
				Defective wiring in dial and housing assembly.	
			Totalizer steps continuously (may give bursts of dial tone).	TB2 not wired correctly.	See Tables K and M and Fig. 24 or 26
				TB3 not wired correctly.	See Table L.
				Totalizer transfer contacts T2 (NC) not making.	Replace defective apparatus
				Defective chassis	
7	With dial tone obtained, dial any digit but "0" or "1".	Dial tone breaks.	Cannot break dial tone.	TB2 not wired correctly.	See Tables K and M and Fig. 24 or 26.
				TB3 not wired correctly.	See Table L.
				Totalizer contacts T1 not latching.	Replace totalizer.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
7 (Cont)				Defective dial Defective chassis Defective wiring in dial and housing assembly	Replace defective apparatus.
			Coins return when dial is operated.	Defective dial.	Replace dial.
8	Hang up handset.	Coins returned.	No refund.	Central office overload.	Same as Step 5.
				Defective central office trunk.	Refer to Test Center.
9	Lift handset and deposit dime.	Totalizer cam rotates 2 steps and then steps back to home position; dial tone is heard.	Same as Step 6.	Same as Step 6.	Same as Step 6.
10	Repeat Step 8.				
11	Lift handset and deposit quarter.	Totalizer cam rotates 5 steps and steps back to home position; dial tone is heard.	Same as Step 6.	Same as Step 6.	Same as Step 6.
12	Repeat Step 8.				
C. Dial Shorting Test					
5	Remove coin relay dust cover.				
6	Lift handset and operate hopper trigger by hand.	Dial tone heard.			
7	Dial any digit but "0" or "1".	Dial tone should not break.	Dial tone breaks.	Totalizer transfer contacts T1 (NC) not breaking.	Replace totalizer.
				TB3 not wired correctly.	See Table L.
				Defective chassis.	Replace chassis.
8	Deposit nickel.	Totalizer reads out; dial tone does not break.	Line drops off.	Defective chassis.	Replace chassis.
9	Hang up handset.	Coin relay operates and returns nickel.			
10	Install dust cover.				

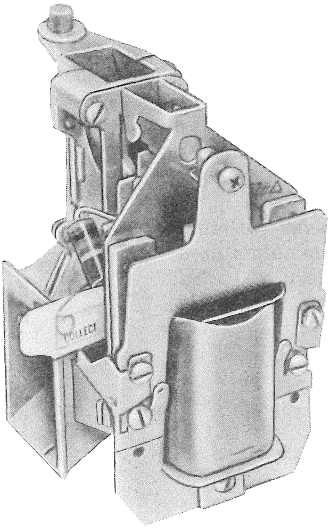
STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
D. Coin Relay Bias Margin Test					
	Note: Make this test when coin relay fails to operate or operates incorrectly.				
5	Remove coin relay dust cover.				
6	Lift handset, obtain dial tone, call test desk and request a bias margin test. (Use central office test circuit where available.)				
7	Slip 146B bias margin gauge (Fig. 19) over left pole piece extension arm from left side of coin relay (Fig. 21).				
8	Request deskman to apply central office collect (or return) voltage as indicated in the lower left corner of gauge.	Relay operates to collect (or return) coins as indicated in lower left corner of gauge.	Relay does not operate properly.	Defective coin relay.	Replace coin relay.
9	Reverse the 146B bias margin gauge by turning it around on the same pole piece extension arm.				
10	Repeat Step 8.	Same as Step 8.	Same as Step 8.	Same as Step 8.	Same as Step 8.
11	Remove 146B gauge.				
12	Hang up handset.				
13	Install dust cover.				
E. Coin Tone Signaling					
5	Connect leads of 1011B test set to tip and ring terminals on TB1.				
6	Place TALK-MONITOR switch of test set in MONITOR position.				
7	Lift handset and deposit dime.				

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
8	Dial any digit but "0" or "1" with coin telephone set dial.	Dial tone breaks.			
9	While monitoring with test set, deposit nickel.	One beep heard in test set.	No coin tones heard in test set.	Totalizer transfer contacts S1 (NC) not making.	Replace totalizer.
			Coin tones heard in coin telephone handset.	Defective chassis.	Replace chassis.
			Note: A slight tone may be heard on long loops but may not necessarily be a failure.		
10	Deposit dime.	Two beeps heard in test set.	Dime tones too fast.	Totalizer transfer contacts CS (NC) not making or CS cam not resetting.	Replace totalizer.
			Too many coin tones.	Totalizer not stepping properly or contacts T2 (NC) not making.	
11	Deposit quarter.	Five rapid beeps heard in test set.	Quarter tones too slow.	Totalizer transfer contacts CS (NC) not breaking.	
12	Hang up handset.	Coin relay refunds all coins.			
13	Disconnect 1011B test set.				

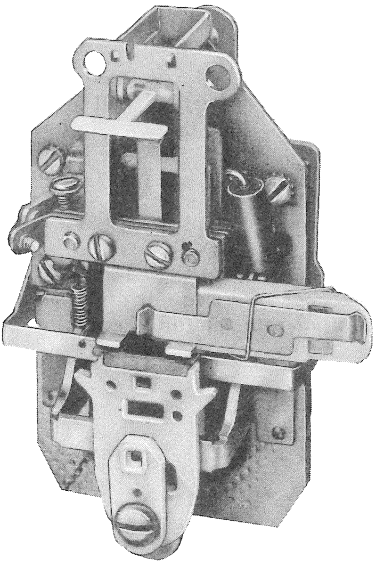
F. Returning Set to Normal Operation

1	Check ringer for maximum volume position of gong.	
2	Remove P11C test cord.	
3	Connect P1 to J1 and install cover unit assembly (1C-type) or close door (2C-type).	
4	Deposit penny.	
5	Operate coin release lever.	Penny is returned.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
6	Operate coin release lever and check entrance stop for clearance.		Entrance stop rubs front cover or does not close entrance to coin chute properly.	Entrance stop bent or not adjusted correctly.	Adjust as necessary.
7	Lift handset, deposit 10 cents and call local operator.	Operator on line, 10 cents returned.	No transmission.	Defective transmitter.	Replace handset.
			Coin(s) not returned.	Defective coin trunk.	Refer to test center.
8	Request operator to call station and verify that set is working correctly.	Ringing heard.	No ringing.	Gong not positioned correctly.	Position gong for maximum volume.
				Defective ringer.	Replace ringer.
				Defective network.	Replace chassis.
9	Call the dial test number and verify all TOUCH-TONE frequencies.				
10	Hang up handset properly.				



SIDE VIEW



BACK VIEW

Fig. 21 — Bias Margin Gauge in Position for Collect Test

5. OPERATION TESTS AND TROUBLE ANALYSIS (DIAL TONE FIRST MODE)

Note: These operation tests should be performed when a 1A-, 2A-, 1C-, or 2C-type coin telephone set in the prepay mode has been converted to the dial tone first mode or when maintenance checks are made.

On trouble reports of coins collected or returned in error, try to obtain area code and telephone number of called party to facilitate tracing trouble in central office.

5.01 *Tests Include*

A. Dial Tone Test

B. Totalizer and Coin Relay Operation

C. Coin Tone Signaling

D. Coin Relay Bias Margin Test

E. Returning Set to Normal Operation

5.02 *Apparatus Required*

(a) P11C Cord (Fig. 6)

(b) 1011B Test Set or equivalent

(c) Coins: 1 penny, 2 nickels, 1 dime, 1 quarter

(d) 146B Bias Margin Gauge (Fig. 19)

5.03 *Preparation*

STEP	ACTION	VERIFICATION
Tests A, B, C, and D		
1	Invert handset on switchhook. (1C-type only) (Fig. 20) *Note:* Prevents armored cord from pushing handset off switchhook when cover is removed.	
2	Remove cover unit assembly (1C-type) or open door and faceplate assembly (2C-type) and disconnect plug P1. Place cover unit assembly (1C-type) on firm level surface.	
3	Connect P11C cord between plug P1 and jack J1 of coin chassis.	
4	Ensure that plug on the totalizer is in the DTF position.	

In the following tests, readout refers to operation of totalizer and generation of beeps by coin signal oscillator. Initial rate set for 10 cents.

5.04 *Method*

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
A. Dial Tone Test					
5	Lift handset.	Dial tone heard.	No dial tone or reduced level.	Plugs P1 and P2 reversed.	Reconnect properly.
				Totalizer plug in PP position.	Reconnect properly.
				Central office overload.	An overload in the central office may appear to be a failure in some instances. Before assuming failure allow CO adequate time to provide line.
				TB2 not wired correctly.	See Tables K and M and Fig. 26 or 27.
				TB3 not wired correctly.	See Table L.
				Switchhook contacts SH1 (NO), SH2 (NO), or SH4 (NO) not making.	Clean contacts or replace dial and housing assembly.
				Defective totalizer Defective chassis Defective wiring in dial and housing assembly Defective handset	Replace defective apparatus.
B. Totalizer and Coin Relay Operation					
5	With handset lifted deposit quarter.	Totalizer operates and then steps back to home position.	No readout.	TB3 not wired correctly.	See Table L.
				Defective totalizer Defective chassis	Replace defective apparatus.
6	Hang up handset.	Quarter is returned.	No return.	Switchhook contacts SH2 (NO) and SH4 (NO) not breaking.	Replace dial and housing assembly.
				Defective coin relay Defective chassis Defective totalizer	Replace defective apparatus.
7	Lift handset and deposit nickel.	Totalizer cam rotates 1 step; does not read out.	Totalizer reads out.	Initial rate set for 5 cents.	Reset totalizer rate.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
7 (Cont)				Tip, ring, or ground reversed.	Reconnect as required.
				TB2 not wired correctly.	See Tables K and M and Fig. 26 or 27.
				TB3 not wired correctly.	See Table L.
				Totalizer contact T1 not making.	Replace totalizer.
				Defective chassis.	Replace chassis.
				Switchhook contact SH3 (NO) not making.	Clean contacts or replace dial and housing assembly.
8	Dial coin test line — *Note:* Coin test line should be a line that requires deposit for connection.	Dial tone breaks.	Dial tone does not break.	Faulty dial.	Replace dial.
				Defective chassis.	Replace chassis.
		Recording states that insufficient deposit was made.	Call goes through; Recording not heard.	TB3 not wired correctly.	See Table L.
				Totalizer contacts T1 making for nickel deposit.	Reset totalizer rate or replace totalizer.
				Defective chassis.	Replace chassis.
9	Hang up handset. two nickels.	Totalizer returns to home position and coin relay refunds nickel.	No return.	Same as Step 6.	Same as Step 6.
10	Lift handset and deposit 2 nickels.	Totalizer reads out and steps back to home position.	No readout.	Initial rate set for more than 10 cents.	Reset totalizer for correct initial rate.
				Defective contacts T1 in totalizer.	Replace totalizer.
				Defective F contacts in totalizer.	
11	Dial coin test line. See Note in Step 8.	Tone ringing heard in handset.	Insufficient deposit recording heard.	Totalizer contacts T1 not making.	
12	Hang up handset.	Nickels are returned.	No return.	Defective central office trunk.	Refer to Test Center.

C. Coin Tone Signaling

5 Connect leads of 1011B test set to tip and ring terminals on TB1.

6 Place **TALK-MONITOR** switch of test set in **MONITOR** position.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
7	Lift handset and dial any digit but "0" or "1" with coin telephone set dial.	Dial tone breaks.			
8	While monitoring with test set, deposit dime.	Two beeps heard in test set. *Note:* Beeps should not be heard in handset of coin telephone.	No beeps heard in test set.	TALK-MONITOR switch in TALK position.	Operate to MONITOR position.
			Beeps heard in coin telephone handset. *Note:* A slight tone may be heard on long loops but may not necessarily be a failure.	Defective totalizer. Defective chassis.	Replace defective apparatus.
			Dime tones too fast.	Totalizer transfer contacts CS (NC) not making, or CS cam not resetting.	Replace totalizer.
			Too many coin tones.	Totalizer not stepping properly — T2 (NC) not making.	
9	Deposit nickel.	One beep heard in test set.			
10	Deposit quarter.	Five rapid beeps heard in test set.	Quarter tones too slow.	Totalizer transfer contacts CS (NC) not breaking.	Replace totalizer.
11	Hang up handset.	Coin relay refunds all coins.			
12	Disconnect 1011B test set.				

D. Coin Relay Bias Margin Test

1 Refer to 4.04 (Test D)

E. Returning Set to Normal Operation

1 Check ringer for maximum volume position of gong.

2 Remove P11C test cord.

3 Connect P1 to J1 and install cover unit assembly (1C-type) or close door (2C-type).

4 Deposit penny.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
5	Operate coin release lever.	Penny is returned.			
6	Operate coin release lever. and check entrance stop for clearance.		Entrance stop rubs front cover or does not close entrance to coin chute properly.	Entrance stop bent or not adjusted correctly.	Adjust or replace as necessary.
7	Lift handset and call local operator.	Operator on line.	No transmission.	Defective transmitter.	Replace handset.
				Defective coin trunk.	Refer to test center.
8	With operator on line, deposit nickel.	Operator verifies 5 cents deposit.	No readout.	Defective coin trunk.	Refer to test center.
				TB3 not wired correctly.	See Table L.
				Defective totalizer.	Replace totalizer.
				Defective chassis.	Replace chassis.
9	Request operator to call station and verify that set is working correctly.	Ringing heard.	No ringing.	Gong not positioned correctly.	Position gong for maximum volume.
				Defective ringer.	Replace ringer.
				Defective network.	Replace chassis.
10	Call the dial test number and verify all TOUCH-TONE frequencies.				
11	Hang up handset properly.				

6. MAINTENANCE

6.01 Maintenance of the 1C- and 2C-type coin telephone sets is limited to cleaning switch hook contacts, clearing of foreign objects or stuck coins from chute, cleaning coin relay (HT) contacts, and replacement of the major components listed in Part 2.

6.02 Refer to Part 3 for the removal and replacement of the following components:

- 1AA chute
- 1A chute
- 1A totalizer
- 1A coin chassis
- Instruction cards
- Number cards

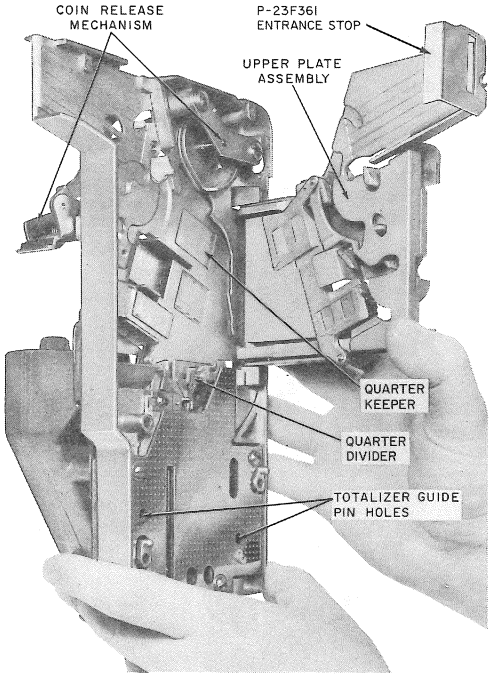


Fig. 22 — Chute

Clearing Chute

(a) When troubles indicate foreign objects or stuck coins in chute.

(1) Operate coin release lever in attempt to clear coins in return chute.

(2) If trouble does not clear:

- Remove cover unit assembly (1C-type) or open door and faceplate assembly (2C-type).
- Remove 1AA chute
- Swing upper plate assembly open (Fig. 22)

Exercise extreme care when closing the upper plate assembly. It should not make contact with the quarter divider or the quarter divider will become damaged when the upper plate assembly is closed against it.

- Remove any foreign objects or stuck coins with an orange stick. Do not use screwdriver.
- Clean off any foreign material adhering to chute magnets.

(3) If trouble cannot be cleared, replace 1AA chute.

When returning 1AA chutes to service center, reuse packing material from which the new item was removed.

(4) Chute should be tested by depositing coins with cover unit assembly both off and on housing (1C-type) or with door and faceplate assembly both open and closed (2C-type).

Electrical Troubles

(a) If electrical troubles are indicated, refer to Parts 4 and 5 (Operation Tests and Trouble Analysis) and Part 7 (Connections).

6.03 Components other than those listed in 6.02 can be removed as follows:

1AA Coin Relay

Note: The 1AA coin relay, which includes the 1A coin relay and P-15E717 coin hopper

assembly, can be removed as a complete unit or the 1A coin relay can be removed without removing hopper assembly.

(a) To remove 1AA coin relay:

(1) Disconnect (BK) and (Y) leads.

(2) Remove vault door and coin receptacle.

(3) Remove two P-10E809 special screw assemblies from inside vault.

(4) Lift 1AA coin relay out of set.

(b) To install 1AA coin relay use reverse procedure and connect (Y) lead to terminal G and (BK) lead to terminal 3.

1A Coin Relay

(a) To remove 1A coin relay without removing hopper assembly:

(1) Disconnect (BK) and (Y) leads.

(2) Remove two relay mounting screws on top front of coin relay (Fig. 12 and 13).

(3) Remove two hex head screws on sides of coin relay.

(4) Check that hopper trigger (Fig. 23) is in horizontal (up) position and pull off coin relay. ***Do not damage hopper trigger.***

When returning 1A coin relays to service center, reuse packing material from which the new item was removed.

(b) To install 1A coin relay:

(1) Move vane on hopper to left (or collect) position.

(2) With hopper trigger in nonoperated (or horizontal) position, move relay into position until trigger enters T-shaped slot in hopper and trap lever tab just enters opening in selector card.

(3) Press down slightly on ear on left side of selector card and manually move armature forward to its operated position. Hold armature in this position.

(4) Move coin relay forward until square stem on vane enters hole in cam and mounting screw holes line up.

Note: Do not attempt to install relay if trigger support bracket (Fig. 23) is so distorted that mounting holes do not engage hopper bosses.

(5) Place and tighten evenly two mounting screws in top of coin relay and two hex head mounting screws in each side of relay.

(6) Make sure that trigger, armature, trap, and vane operate without binding.

(7) Reconnect (Y) lead to terminal G and (BK) lead to terminal 3.

Coin Hopper

(a) To remove coin hopper:

(1) Remove 1A coin relay.

(2) Remove vault door and coin receptacle.

(3) Remove two P-10E809 special screw assemblies from inside vault.

(4) Lift hopper out of set.

(b) To install coin hopper, use reverse procedure.

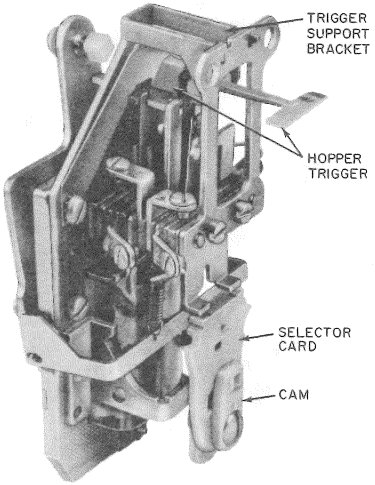


Fig. 23 — Coin Relay

Return Chute Assembly

(a) To remove return chute assembly:

(1) Remove 1AA chute.

(2) Loosen return chute screw (Fig. 12 and 13).

(3) Lift assembly up and off.

(b) To replace return chute assembly, reverse procedure.

Coin Return Assembly

(a) To remove coin return assembly:

(1) Remove 1AA chute.

(2) Remove return chute assembly.

(3) Remove coin return assembly locking screw (Fig. 12 and 13).

(4) Insert finger in coin return and tilt top forward.

(5) Lift coin return. Pull coin return assembly out and up.

(b) To install coin return assembly:

(1) Tilt top of coin return assembly toward set.

(2) Push coin return assembly into set.

(3) Push in and down on bottom of coin return assembly until flush with front of housing.

(4) Install coin return assembly locking screw. Tighten screw only enough to hold return assembly in place. Further tightening will bend screw.

(5) Replace return chute assembly.

(6) Replace 1AA chute.

Ringer

(a) To remove C4A ringer:

(1) Remove 1AA chute.

(2) Remove 1A coin chassis.

(3) Disconnect four ringer leads; two from TB1 and two from network.

(4) Remove two ringer mounting screws and lift off ringer.

(b) To install C4A ringer, reverse procedure making sure that locating pin on bottom of ringer is in grommet on chassis assembly. Make connections per Table H.

TABLE H

RINGER CONNECTIONS

WIRE COLOR	CONNECT TO
BK	TB1-T
R	TB1-R
S-R	Term. A (Network)
S	Term. K (Network)

Handset

(a) To remove handset:

(1) Disconnect handset leads from terminal board (TB2) on rear of dial housing.

(2) Remove P-181678 BHM screw, and P-15E444 cover plate which secure handset cord to dial housing.

(3) Loosen stay-hook screw and remove handset cord.

(b) To install handset, reverse procedure. Make connections per Table J.

TABLE J

HANDSET CONNECTIONS

WIRE COLOR	CONNECT TO	
	ROTARY	TOUCH-TONE
W	TB2-2	TB2-7
R	TB2-3	TB2-3
BK	TB2-6	TB2-5
W	TB2-8	TB2-8

Dial and Housing Assembly

(a) To remove dial and housing assembly:

(1) Remove handset.

(2) Remove four mounting screws and remove dial and housing assembly from cover.

(b) To install dial and housing assembly, reverse procedure.

(c) To remove dial:

(1) Remove dial and housing assembly.

Note: It will not be necessary to remove handset when removing dial.

(2) Disconnect dial leads from TB2.

(3) Loosen two mounting screws on sides of dial through access holes in housing.

(4) Lift dial off.

Note: Before installing a new 8S dial, remove and discard the dust cover.

TABLE K

DIAL CONNECTIONS

TYPE DIAL	WIRE COLOR	CONNECT TO	
		PP	DTF
Rotary	BL	TB2-9	TB2-9
	G	TB2-10	TB2-10
	W	TB2-2	TB2-2
	W	TB2-3	TB2-3
	Y	TB2-9	TB2-9
	Y	TB2-9	TB2-13
TOUCH-TONE	G	TB2-4	TB2-4
	W	TB2-2	TB2-2
	R	TB2-5	TB2-5
	R-G	TB2-6	TB2-6
	BK	TB2-1	TB2-1
	O-BK	TB2-11	TB2-11
	O-R	TB2-12	TB2-12
	BL	TB2-3	TB2-3
	W-BL	TB2-7	TB2-7
	O-W	TB2-10	TB2-9
	V	TB2-10	TB2-13

(d) To install dial, reverse procedure making sure that dial is properly seated on four locating pins. Make connections per Table K.

CLEANING

6.04 When necessary, the external surface of the coin telephone set may be cleaned with KS-7860 petroleum spirits or a suitable liquid wax such as Johnson's No. 7700 cleaning and polishing wax emulsion.

Warning: Use safety precautions while using highly flammable KS-7860 petroleum spirits.

7. CONNECTIONS

7.01 Refer to Fig. 24 through 27 for connecting diagrams.

7.02 Refer to Fig. 28 through 31 for schematic diagrams.

8. CONVERSIONS

8.01 To convert a prepay set to dial tone first or a dial tone first set to prepay:

(a) Connect leads per Tables L and M.

(b) Connect plug on totalizer to the appropriate position (PP or DTF).

TABLE L

COIN CHASSIS CONNECTIONS

CONNECT TO	WIRE COLOR	
	PP MODE	DTF MODE
TB3-1	G	R
TB3-2	G-BK	G
TB3-3	R, S-R	G-BK
TB3-4	BL, S-W	BK
TB3-5	G-W	——
TB3-6	V	BL, V-O
TB3-7	BK	——
TB3-8	——	S-R, R-G
TB3-9	——	W-BR
Insulate and store	W-BR, V-O, R-G	S-W, G-W, V

TABLE M

DIAL HOUSING CONNECTIONS

TYPE DIAL	WIRE COLOR	CONNECT TO		OTHER END CONNECTED TO
		PP MODE	DTF MODE	
Rotary	Y	TB2-9	TB2-13	DON-2 contact on 8S Dial
	G	TB2-13	TB2-9	SH3
TOUCH-TONE	V	TB2-10	TB2-13	t contact on 35T3A Dial
	O-W	TB2-10	TB2-9	s contact on 35T3A Dial
	G	TB2-13	TB2-9	SH3

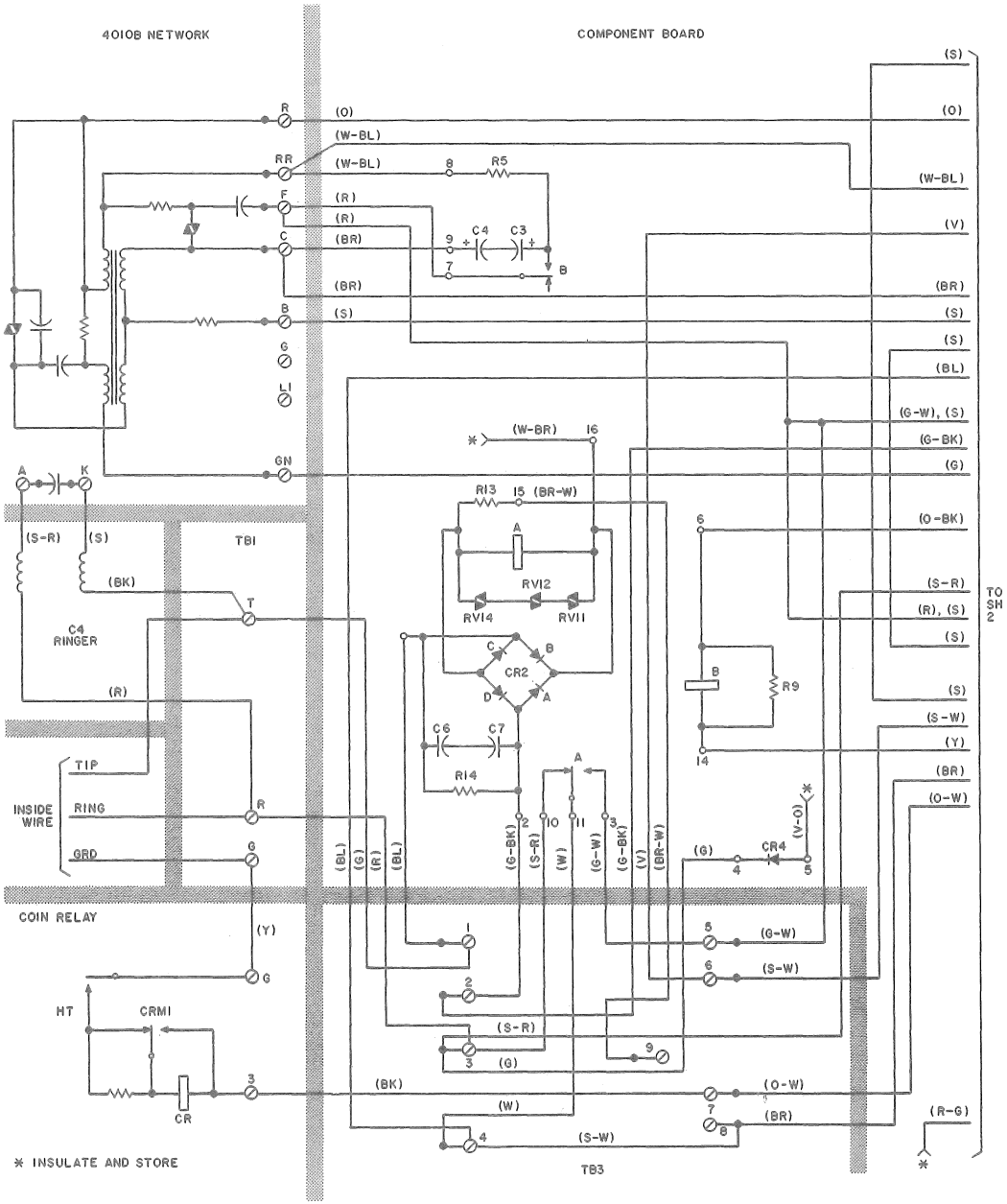


Fig. 24 — 1C1 and 2C1 Prepay Coin Telephone Sets — Connections (Sheet 1)

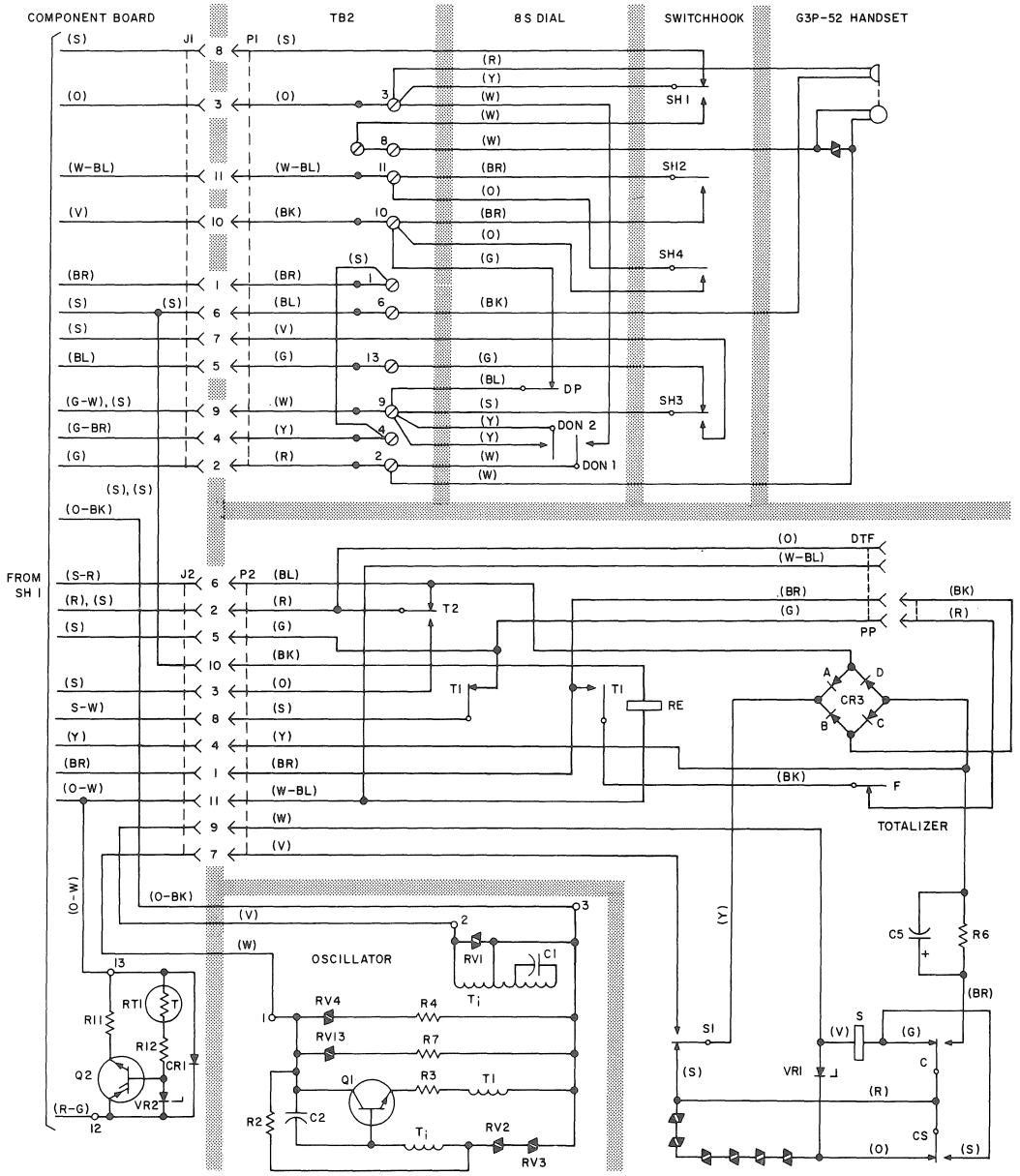


Fig. 24 — 1C1 and 2C1 Prepay Coin Telephone Sets — Connections (Sheet 2)

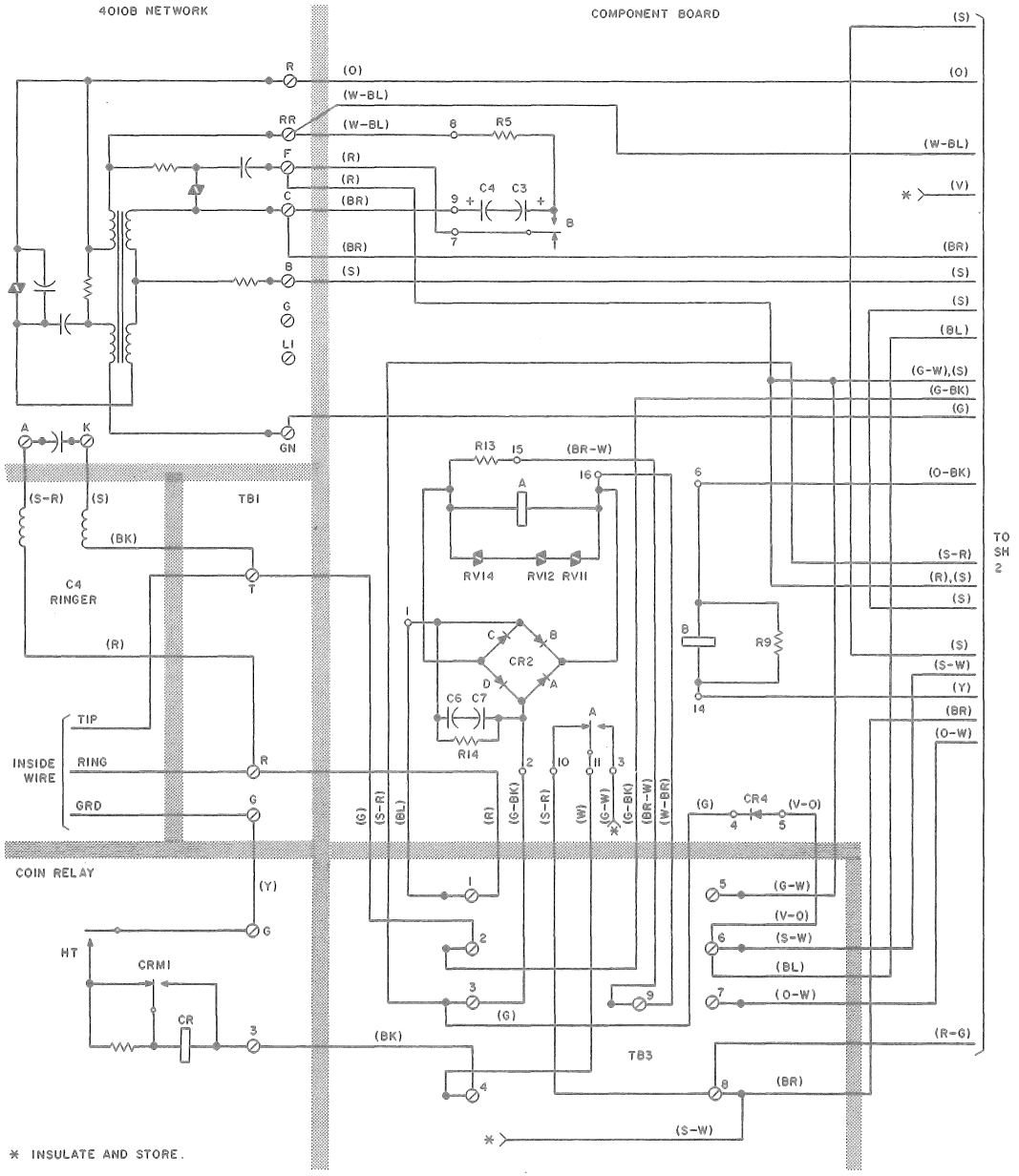


Fig. 25 — 1C1 and 2C1 Dial Tone First Coin Telephone Sets — Connections (Sheet 1)

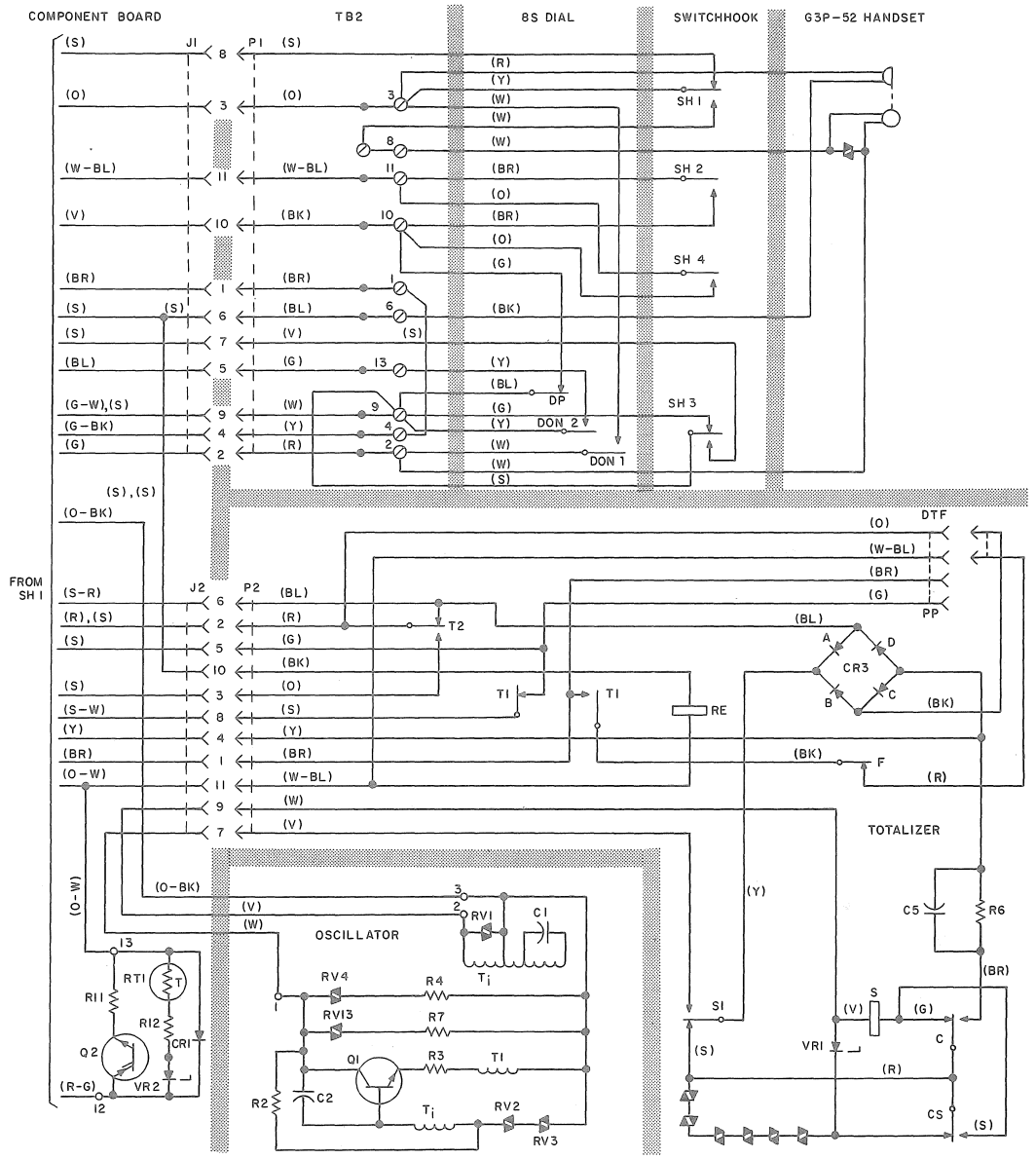


Fig. 25 — 1C1 and 2C1 Dial Tone First Coin Telephone Sets — Connections (Sheet 2)

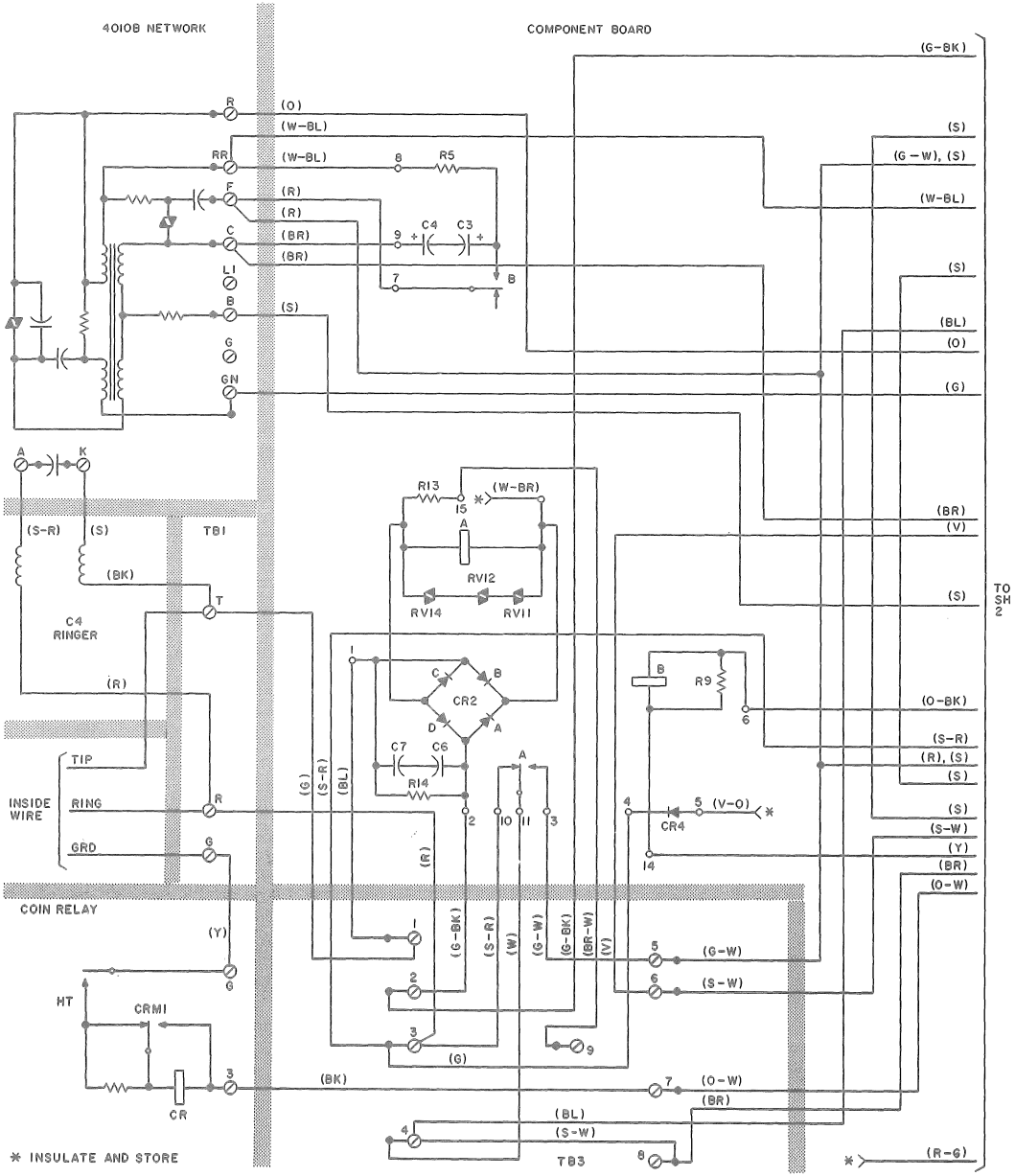


Fig. 26 — 1C2 and 2C2 Prepay Coin Telephone Sets — Connections (Sheet 1)

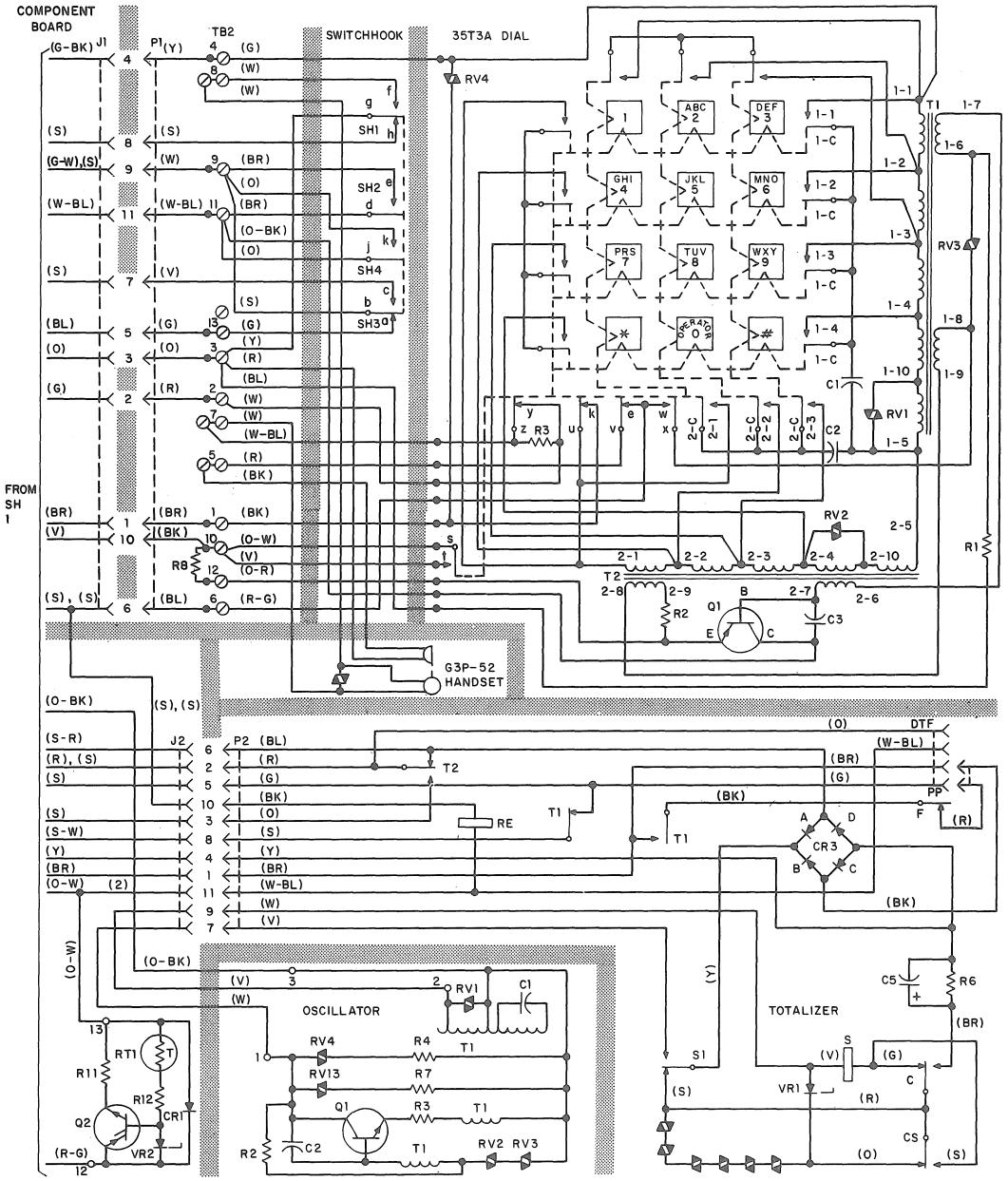


Fig. 26 — 1C2 and 2C2 Prepay Coin Telephone Sets — Connections (Sheet 2)

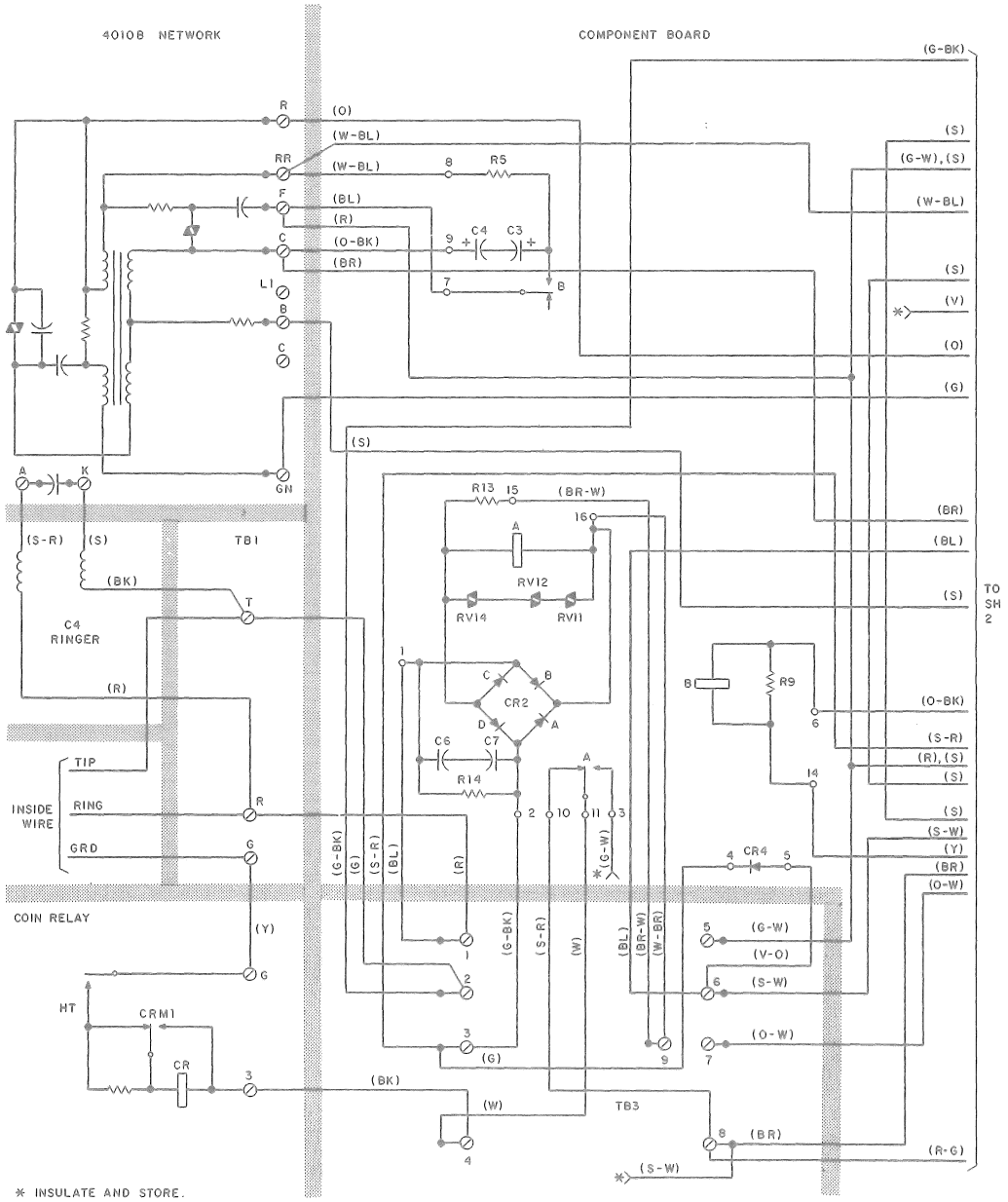


Fig. 27 — 1C2 and 2C2 Dial Tone First Coin Telephone Sets — Connections (Sheet 1)

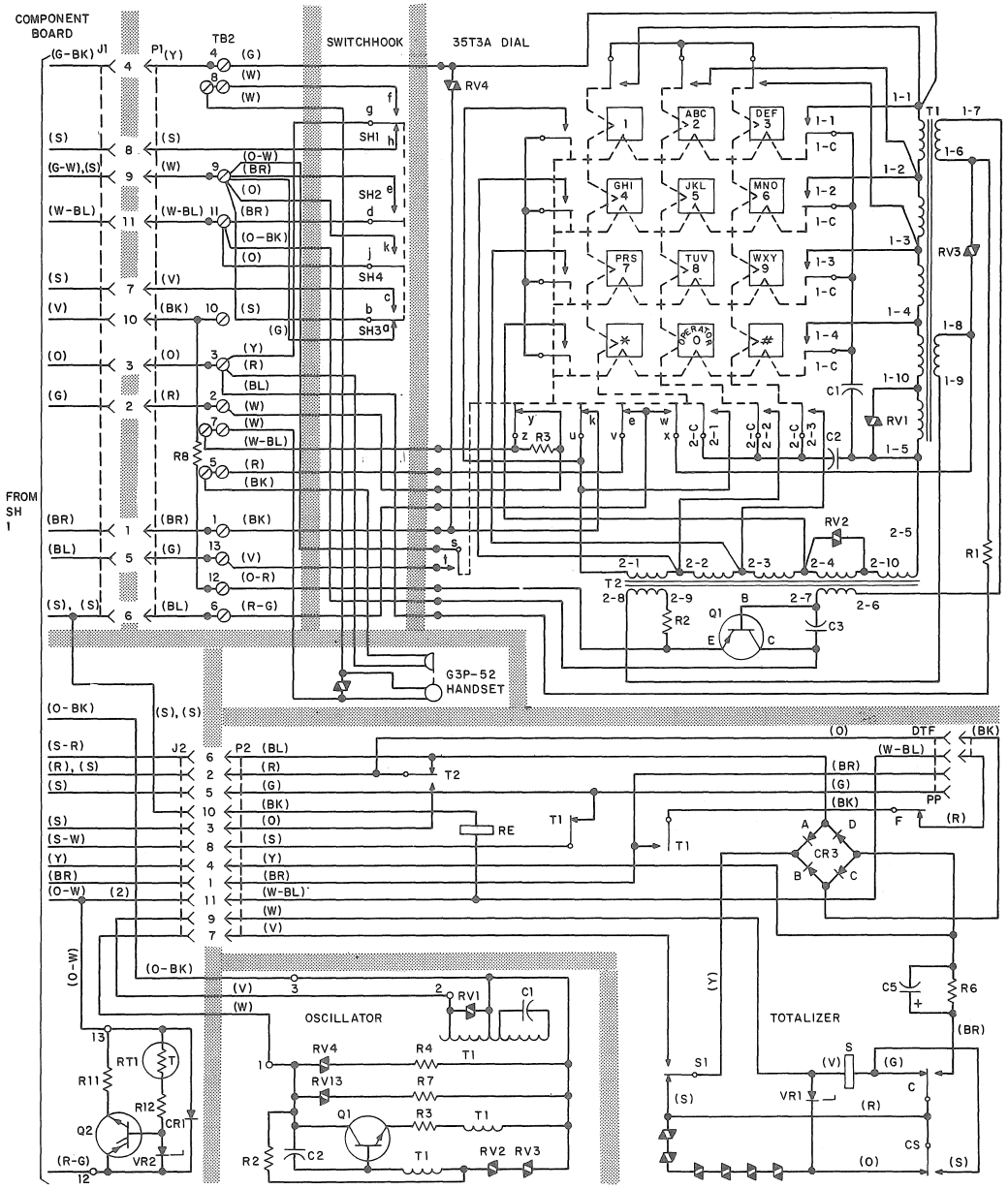


Fig. 27 — 1C2 and 2C2 Dial Tone First Coin Telephone Sets — Connections (Sheet 2)

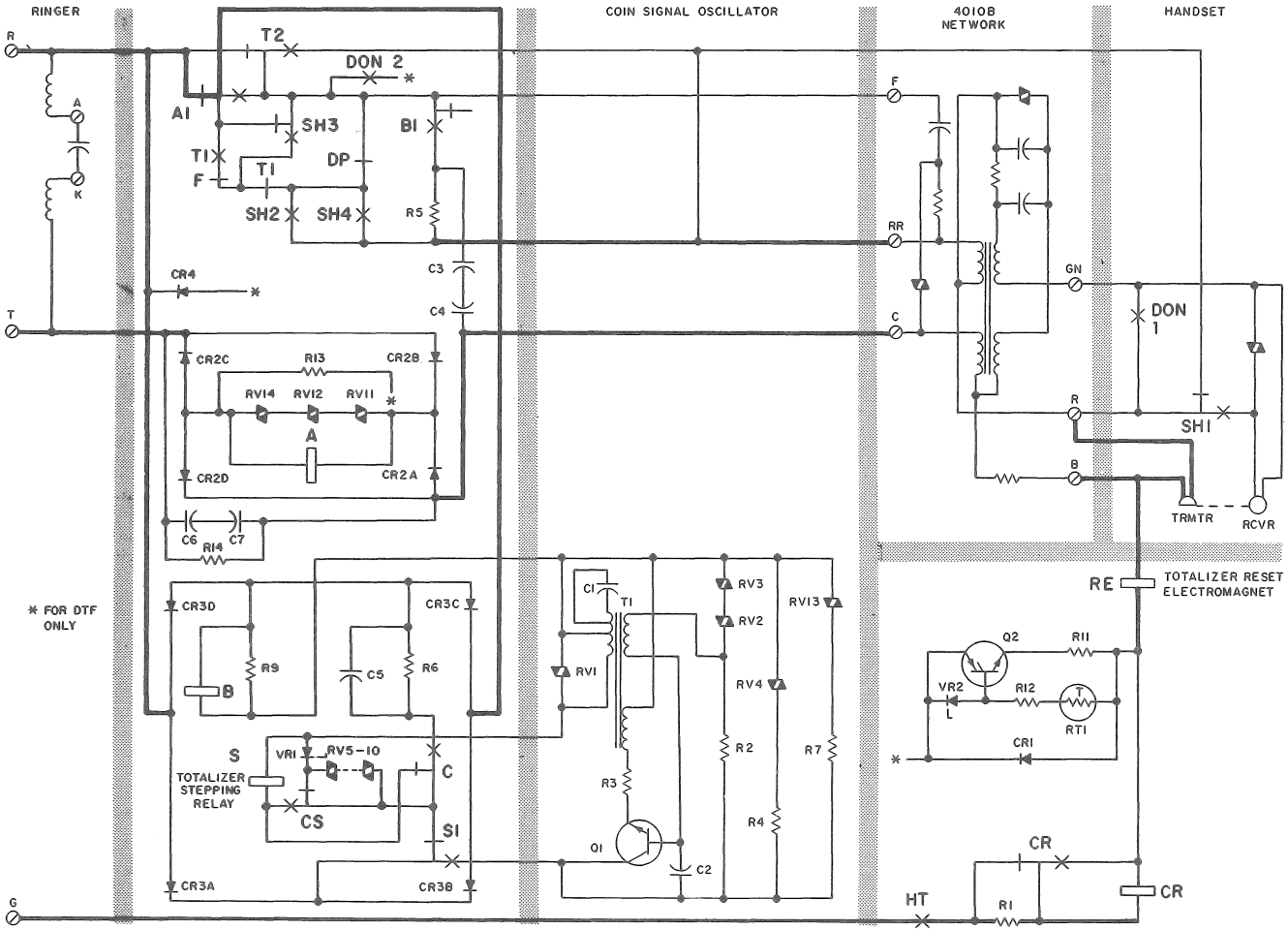


Fig. 28 — 1C1 and 2C1 Prepay Coin Telephone Sets — Schematic

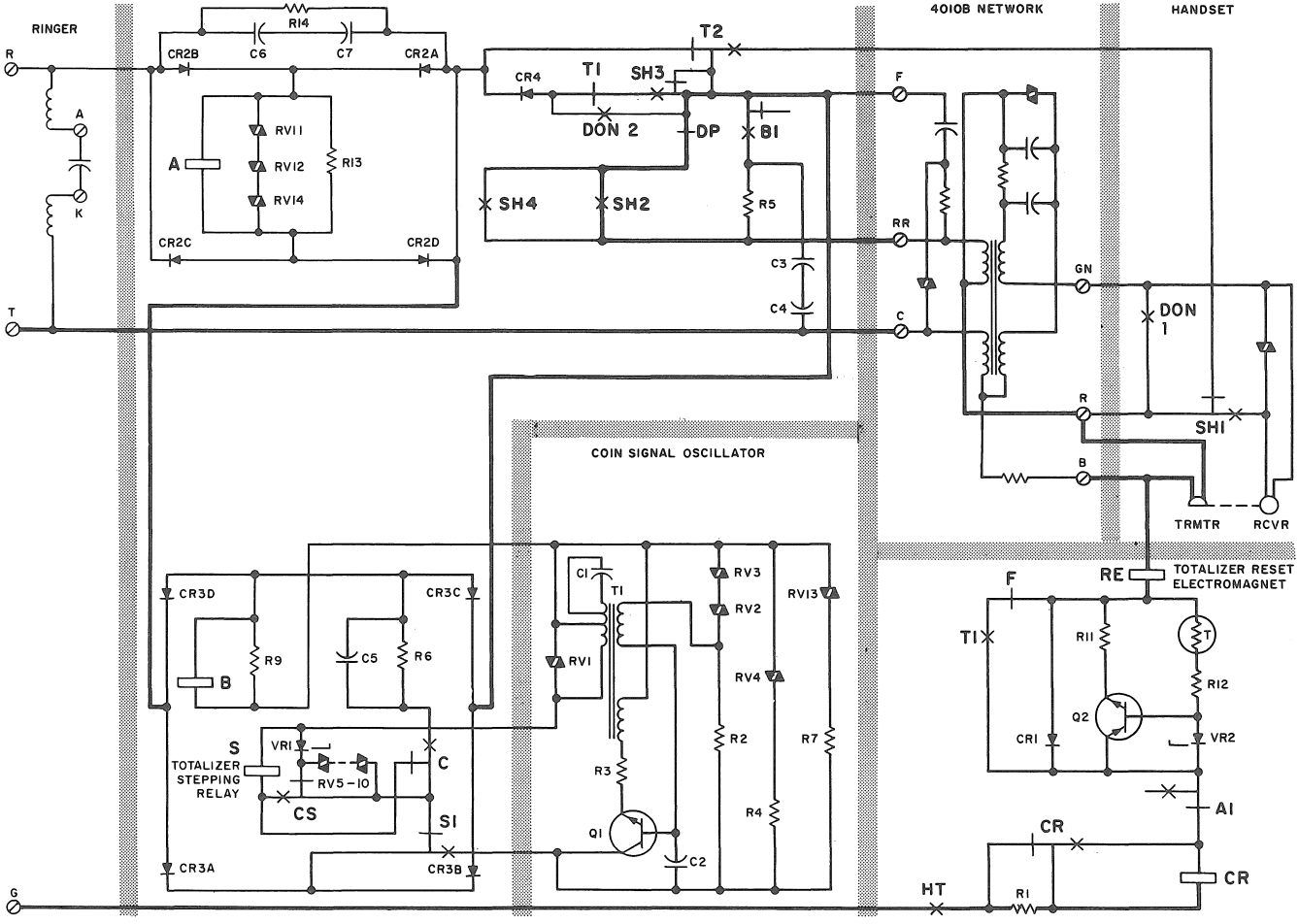


Fig. 29 — 1C1 and 2C1 — Dial Tone First Coin Telephone Sets — Schematic

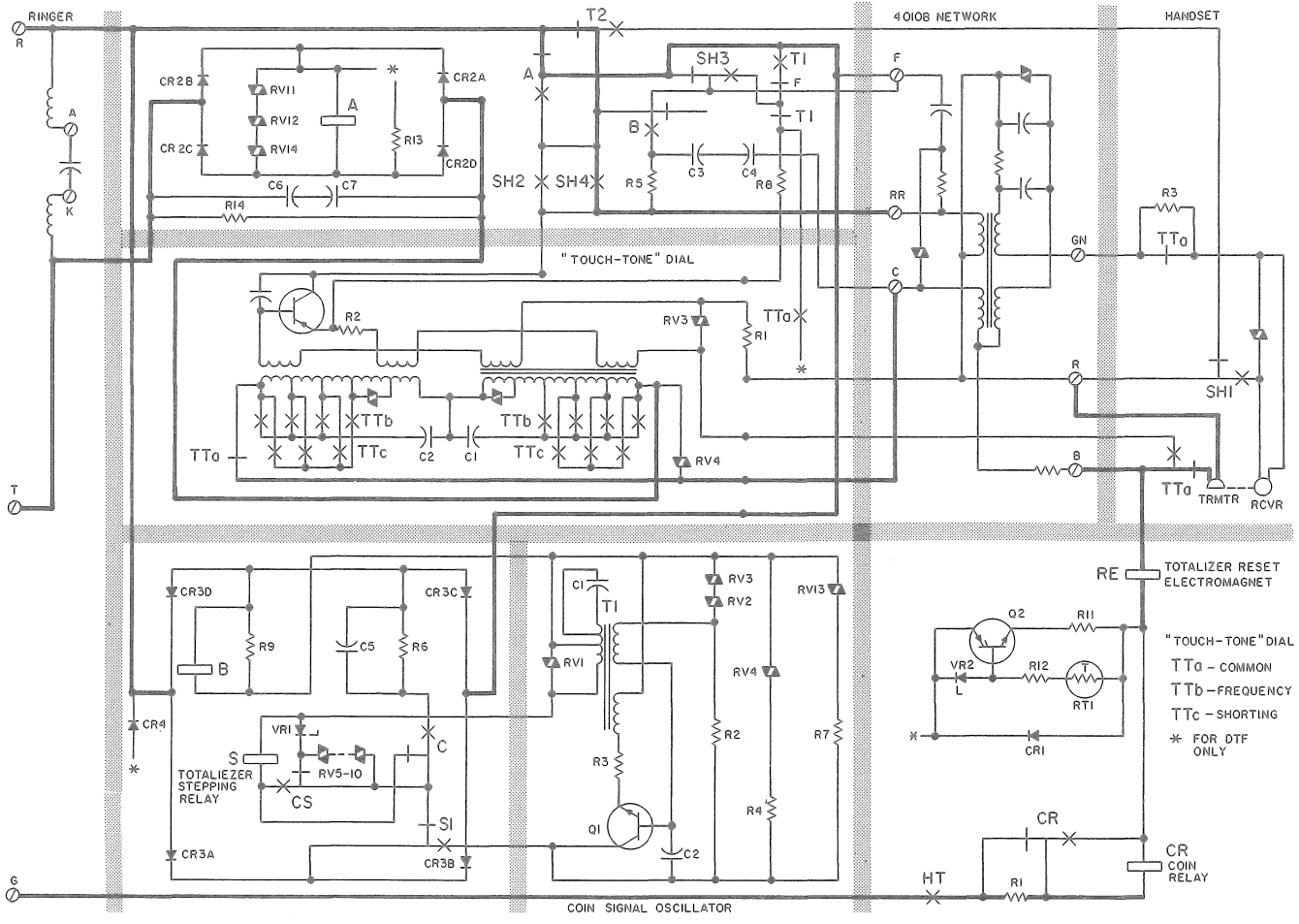


Fig. 30 — 1C2 and 2C2 Prepay Coin Telephone Sets — Schematic

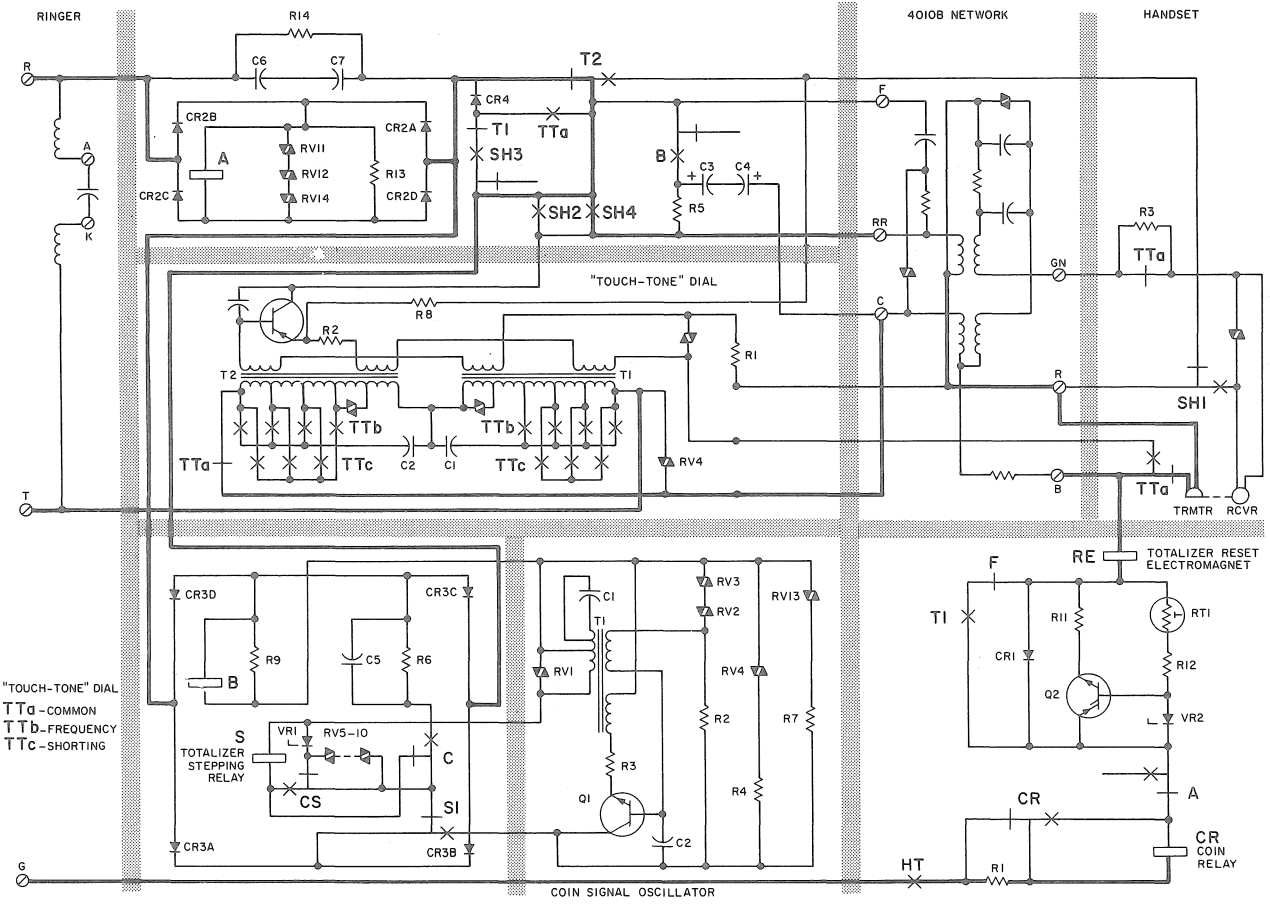
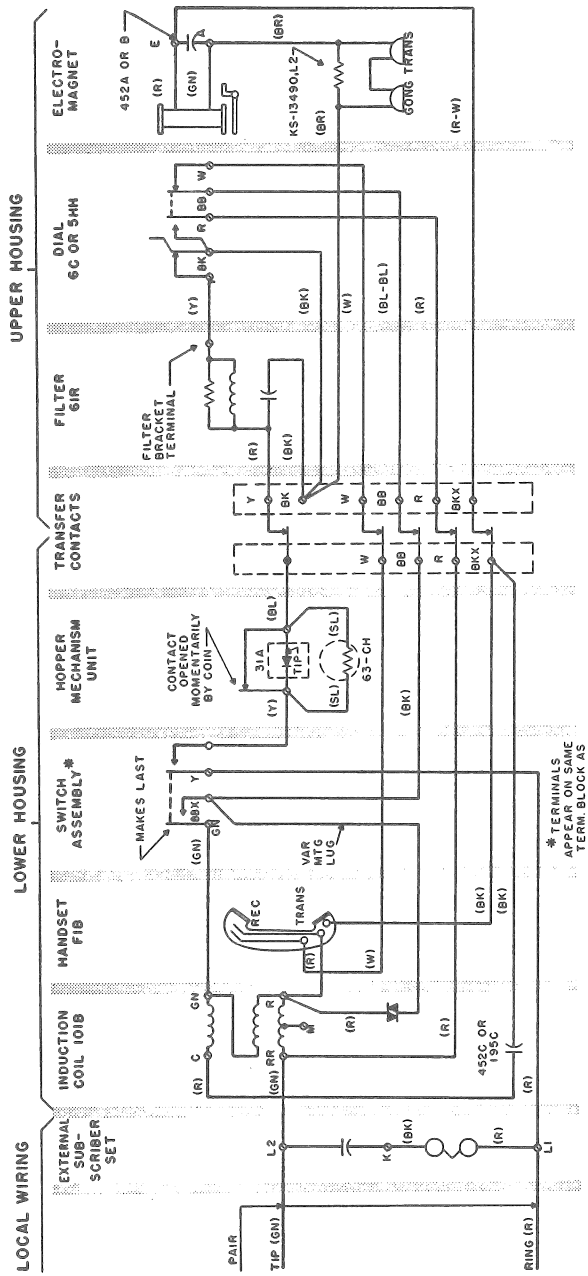


Fig. 31 — 1C2 and 2C2 Dial Tone First Coin Telephone Sets — Schematic

COIN COLLECTORS—POSTPAY—193G, H; 198G, H

COMMUNITY DIAL OFFICE SERVICE—COMMON BATTERY—CONNECTIONS



193G, H AND 198G, H COIN COLLECTORS

Connection with 531A; 534DE, DF; 584DE, DF, and 687A Subscriber Sets

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COIN COLLECTORS—POSTPAY
210G,H; 212G,H; 193GN, HN; AND 198GN, HN
CONNECTIONS

1. GENERAL

1.01 This section is reissued to show information on the D5AM cord.

1.02 The D5AM cord replaces the D5AF cord which is rated Manufacture Discontinued (MD).

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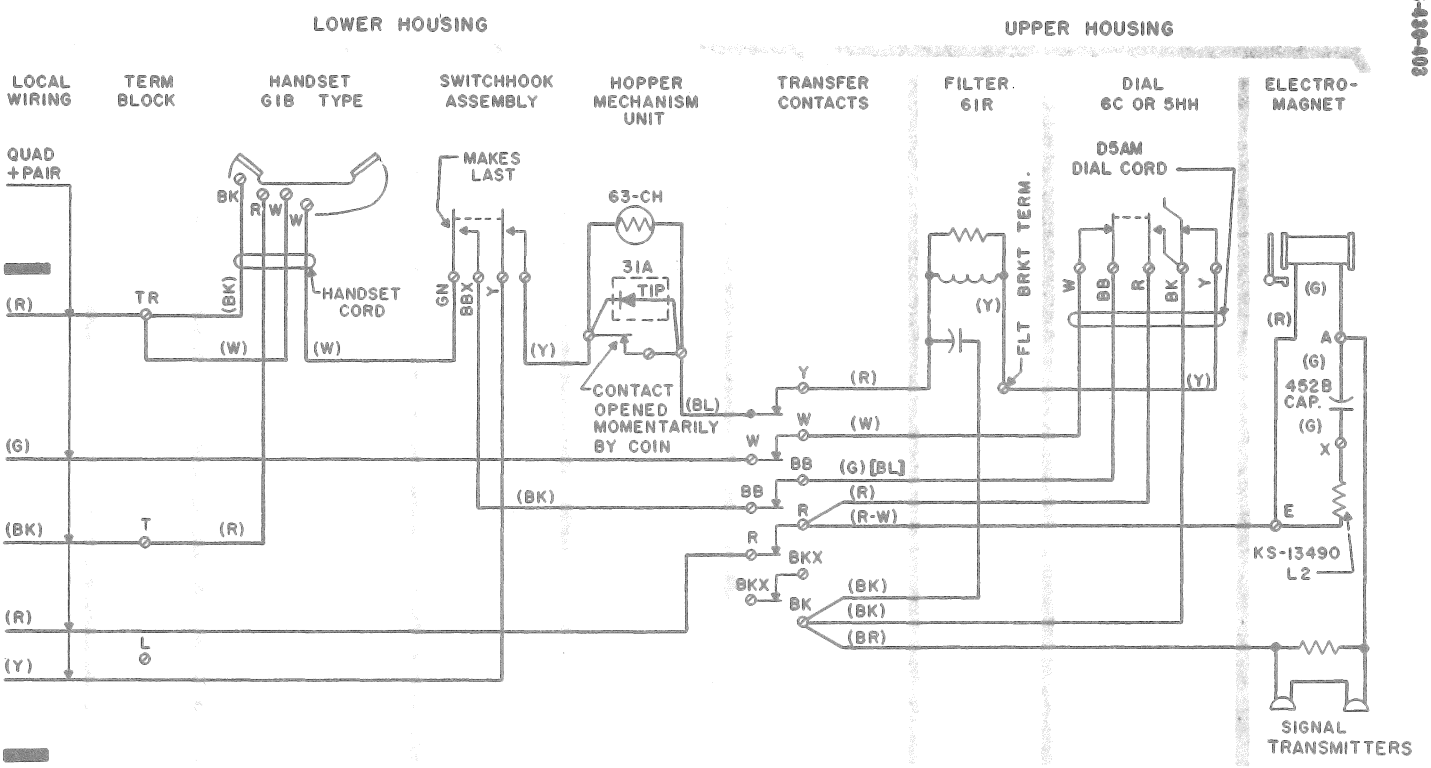

Fig. 1 — Circuit Diagram of 210G,H; 212G,H; 193GN,HN; and 198GN,HN Coin Collectors for Connection with 685A Network Type Subscriber Set

ELECTRIC GROUNDING AND WIRING REQUIREMENTS

BOOTHS - METAL

1. GENERAL

1.001 This addendum supplements Section 508-100-100, Issue 2.

1.002 This addendum is issued to revise the connection of a booth to the power circuit.

1.003 Delete the information in 2.03 and substitute the following:

2.03 No. 14 AWG conductors are used for electrical wiring of metal booths. A 15 ampere fuse or circuit breaker should be located in the power circuit to the booth except:

(a) A cord and plug-connected booth may be connected to a 20-ampere branch circuit protected with a fuse or circuit breaker.

(b) The booth power receptacle may be permanently wired to a 20-ampere branch circuit protected with a fuse or circuit breaker, using No. 12 AWG conductors, provided the booth is not the sole device on the branch circuit and no external devices are permanently wired to the booth power receptacle with less than No. 12 AWG wire.

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ELECTRIC GROUNDING AND WIRING REQUIREMENTS

BOOTHS—METAL

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1. GENERAL

1.01 This section is reissued to:

- Revise text
- Revise illustrations

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

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Rigid grounding requirements are necessary to ensure deenergizing of electrical circuit if a defect or fault occurs. This is accomplished by connecting all metal parts of the booth/mounting electrically to the power system ground.

Ensure that the electrical system to which booth wiring is to be connected is properly grounded. The installation of a booth is not complete or ready for service until a ground wire has been properly installed. The ground wire should always be checked when a booth is inspected or cleaned to ensure that it has not been disconnected by tampering or by accident.

1.02 Commercial power of 110- to 125-volt, 15-ampere ac is necessary for operation of blower and illumination of lamps.

1.03 Wiring shall be installed to meet requirements of the National Electrical Code, local governmental regulations, and approved practices and standards of the local telephone company.

2. ELECTRIC WIRING

2.01 Electric wiring to metal booths and mountings is terminated on a standard 3-wire grounded receptacle mounted within the booth and designed to accept a standard plug with U-shaped grounding pin. All lamp and blower cords plug into this receptacle. Fig. 1 shows a typical 3-wire grounded receptacle.

2.02 The green or grounding terminal of the power receptacle is connected internally to the mounting lugs. When the receptacle is installed in the booth, the grounding circuit is completed between metal booth and grounding terminal of receptacle.

2.03 No. 14 AWG conductors are used for electrical wiring of metal booths. A 15-ampere fuse or circuit breaker must be located in the power circuit to the booth.

2.04 Booths may be directly wired by conduit, armored cable, or connected to a receptacle with one of the following three power cable assemblies, which supersede all cable assemblies previously used:

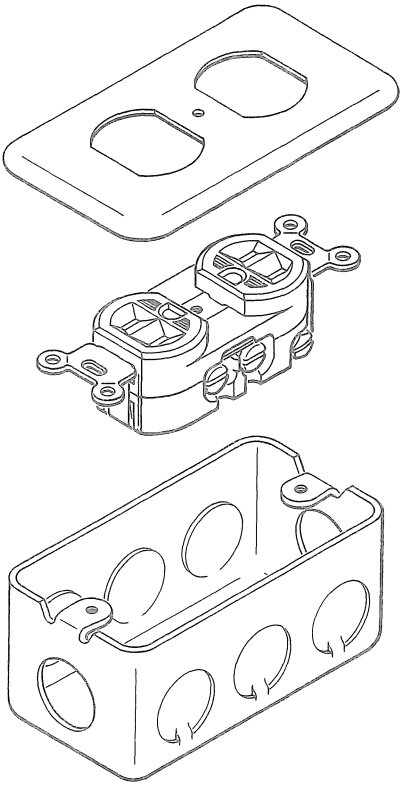

Fig. 1—Typical Electrical Receptacle

- KS-19425, List 22 cable assembly (Fig. 2) —Used to bring power into the top of an indoor booth.
- KS-19580, List 30 power cord assembly (Fig. 3)—Used to bring power into the top of an outdoor booth.
- KS-19580, List 31 power cord group (Fig. 4)—Used to bring power into the bottom of an indoor or outdoor booth.

2.05 A weatherproof power receptacle (Fig. 5), supplied by local electrician, should be used

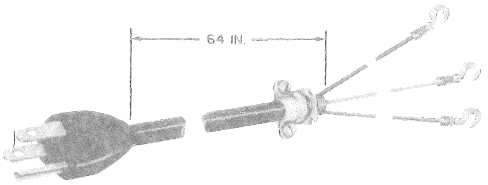

Fig. 2—KS-19425, List 22 Cable Assembly

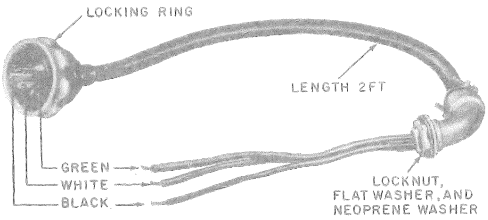

Fig. 3—KS-19580, List 30 Power Cord Assembly

on all outdoor installations using the KS-19580, List 30 or List 31 power cords.

2.06 Fig. 6 and 7 are typical outdoor power connections.

3. POWER GROUNDING

3.01 The metal booth power-grounding requirements are as follows:

(a) If power is supplied to the booth by means of a metallic conduit, electric metallic tubing, or armored cable, the metal enclosure of the wiring usually provides a protective grounding path for the return of accidental fault currents to the power equipment. Wherever possible, this path should be paralleled by a third No. 14-gauge conductor within the enclosure to ensure continuity. This third wire may be bare copper or have a green colored insulation.

(b) ***If the third conductor has not been provided, and if the booth is located***

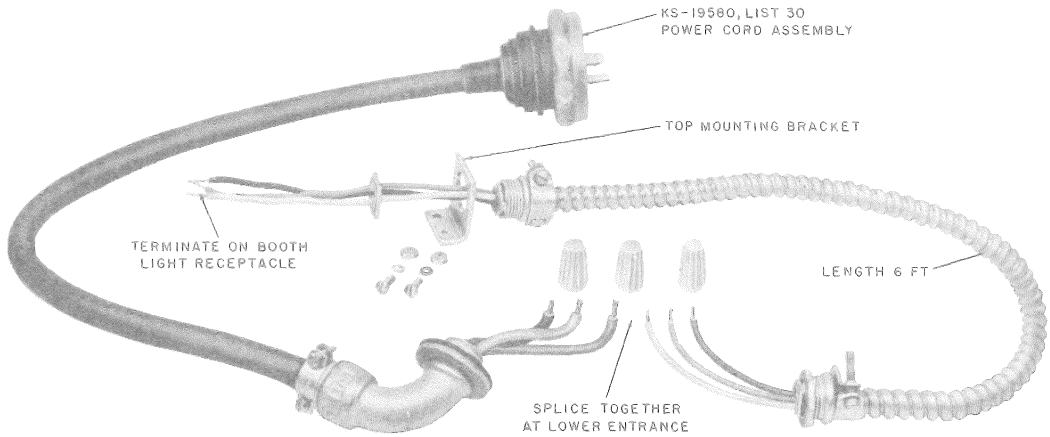

Fig. 4—KS-19580, List 31 Power Cord Group

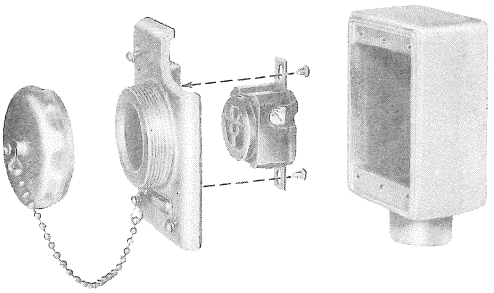

Fig. 5—Typical Weatherproof Power Receptacle

outdoors as a separate structure apart from the building serving the power, ground the booth in the following manner.

(1) Have a local electrician interconnect the power neutral and protective ground terminal at the electrical receptacle.

(2) Provide a power grounding electrode at the booth.

Note 1: A metallic conduit connected to the booth may serve as this electrode if a length of at least 10 feet of it is buried in permanently moist soil.

Note 2: If the booth is installed against a building with an accessible cold-water pipe, this water pipe may be connected to the booth with No. 6 AWG wire.

Note 3: If neither of the conditions in Notes 1 and 2 are met, a ground rod must be provided and connected to the booth with No. 6 AWG wire.

(c) ***If the third conductor has not been provided, and if the booth is located indoors, or outdoors against the building serving the power, the circuit must be rewired by an electrician to provide the grounding conductor.***

4. GROUNDING HARDWARE

4.01 The hardware used to terminate station ground wire is shown in Table A. The method for installing these ground clamps and wire connectors is outlined in Section 631-460-200.

5. BOOTH GROUNDING

5.01 Always use No. 6 AWG wire when connecting a booth to an electrode.

5.02 Electrode ground connections may be made as follows:

(a) *KS-19580 Outdoor Booth:* This booth is equipped with a ground lug near the bottom of the booth, behind the corner panel in the right rear corner (Fig. 8).

(b) *KS-19425 Indoor-Outdoor Booth:* This booth is equipped with a ground lug near the bottom of the booth in the right rear corner column. It is the same type as the one in the KS-19580 booth.

(c) *KS-14611 Outdoor Booth:* This booth is equipped with a 5/16—18 by 1-1/4 FHM screw with two 3/8-inch steel washers and one 5/16—18 hex nut (Fig. 9), located in the right rear corner on the mounting bracket. Wrap the ground wire around the screw, between the two washers as shown.

Note: Future reconditioned KS-14611 booths will have a ground lug similar to the KS-19580 booth.

(d) *KS-16797 Universal Booth:* This booth will require the use of the mounting bolt in the right rear corner for connecting the ground wire (Fig. 10) unless a KS-16797, List 21 junction box is used. When the junction box is used, the ground terminal in the junction box may be used for connecting ground wire.

Note: Future reconditioned KS-16797 booths will have a ground lug similar to the KS-19425 booth.

(e) *KS-19426 Walk-Up, Drive-Up Mounting:* For post mountings, use ground terminal in junction box behind post cover. For wall mountings, use grounding screw in electrical receptacle.

(f) *KS-16705 Walk-Up, Drive-Up Mounting:* Use threaded hole in post for ground screw

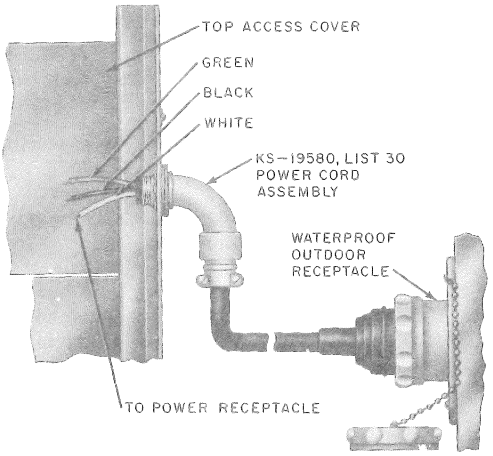

Fig. 6—Power Entrance at Top of Booth

or use mounting bolt which secures subscriber set housing to backboard.

(g) ***KS-19206 Curved Door Booth and KS-19442 Glass Deluxe Booth:*** These booths are for indoor installation only. Each is equipped with a 3-conductor cord for plugging into a grounded, 3-terminal electrical receptacle.

6. MULTIPLE BOOTH INSTALLATIONS

6.01 When booths are installed in multiples, they should be bonded together for grounding purposes.

6.02 Electrical power should be connected to the end booth and extended to remaining booths by running 3-conductor cables through knockouts provided in the roof and side assemblies.

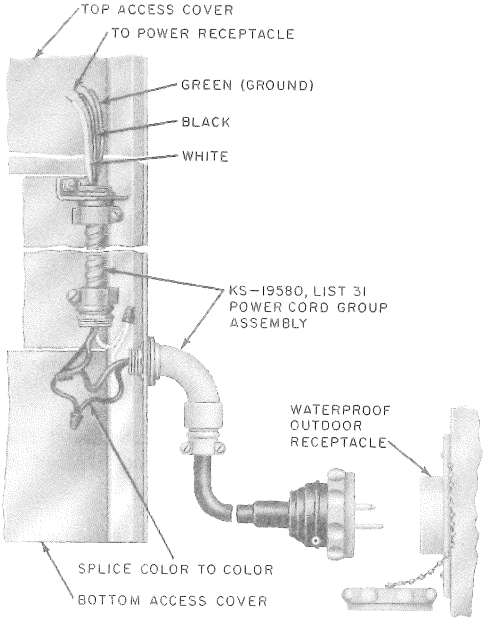

Fig. 7—Ground-Level Power Entrance

7. STATION PROTECTOR GROUNDING

7.01 The station protector for the telephone instrument is provided with its ground terminal already connected to the booth. If this ground lead becomes broken or damaged, bond the protector ground terminal to the booth with wire no less than No. 14.

Fig. 8—Grounding Screw in KS-19580 Booth

7.02 When a protector is located within the building where the booth is installed, the protector in the booth can be used as a connecting block and the connection between the ground terminal and the booth ***should not*** be removed.

7.03 When a booth is located outdoors, a ground rod for protector grounding must be installed, unless:

(1) At least 10 feet of metallic conduit buried in permanently moist soil is connected to the booth, or

(2) The power ground rod of Multigrounded Neutral system is located adjacent to the booth—Bond the booth to the power ground rod with No. 6 wire, or

(3) A cold water pipe is available or a power ground rod has been installed as described in 3.01(b).

Note: The grounding conductor (third wire of an electrical wiring system) should never be used as the protector ground.

7.04 Refer to the sections pertaining to station protection for detailed information.

8. INDIVIDUAL POWER SOURCE FOR BOOTH OR MOUNTING

8.01 Refer to Fig. 11 and 12 for this type service. Similar installations may have the fuse and cutout switch mounted on an adjoining post or wall, on the booth/mounting, or on a service mast.

8.02 The connection is made directly to the power company secondary. The branch circuit conductors from the booth are connected in the service equipment cabinet.

8.03 In these installations the power-grounding electrode will also be used as a booth-grounding electrode.

8.04 Choice of ground for power service is given in the National Electrical Code. Refer to latest revision.

9. EXTENDING BRANCH CIRCUIT TO BOOTH OR MOUNTING

9.01 This part describes those installations where a branch circuit from a building is extended to the booth by power cords, metal conduit, or open conductors.

9.02 Where the branch circuit wiring in the building is metallically enclosed (conduit, EMT, AC cable, or raceway) the continuity of the metallic enclosure is depended upon to provide a grounding path back to the service equipment. This path is extended to the booth through the third conductor in the power cord, open wiring, or conduit. See 3.01.

9.03 Where the branch circuit wiring consists of 3-conductor nonmetallic sheath cable, the grounding conductor provides this path. The grounding path in branch circuit wiring and its extension to the booth must be connected in a splice box by means of suitable connectors or fittings.

9.04 Where electric wiring in the building consists of nonmetallic sheath cable ***without*** a separate grounding conductor, the branch circuit ***must*** be rewired to provide a grounding conductor.

3-Wire Extension to Booth/Mounting

9.05 Fig. 13 through 16 show various applications for extending branch circuit.

TABLE A

GROUND CLAMPS AND WIRE CONNECTORS

TYPE	BRACKET, CLAMP OR CONNECTOR	CONDUCTOR SIZE	SERVICE PIPE INTERIOR OR ABOVE GROUND SIZE (IN)	SERVICE PIPE OR GROUND ROD (BURIED) SIZE (IN)
Ground Clamps	72A Bracket with B Station Ground Clamp Size 6-3/4		3/8 through 1-3/4	
	72A Bracket with B Station Ground Clamp Size 12-1/2		1-7/8 through 3	
	90A Bracket with B Station Ground Clamp Size 6-3/4		3/8 through 1-3/4	
	90A Bracket with B Station Ground Clamp Size 12-1/2		1-7/8 through 3	
	B Station Ground Clamp Size 6-3/4	No. 14, 12, or 10	3/8 through 1-3/4	3/8 through 1-3/4
	B Station Ground Clamp Size 12-1/2	No. 14, 12, or 10	1-7/8 through 3	1-7/8 through 3
	B Ground Clamp	No. 8, 6, or 4	1/2 through 1	1/2 through 1
	L Ground Clamp	Small Opening No. 6; Large Opening No. 4 through 1/0	3/8 through 3	
Wire Connectors	E Connector Size 1	No. 14 through 4		
	E Connector Size 2	No. 4 through 1/10 and 8 through 4 Armored Bare Wire		
	AT-7796X Connector Size 6	No. 14 through 6		
	AT-7796X Connector Size 4	No. 8 through 4		
	AT-7796X Connector Size 2	No. 6 through 2		

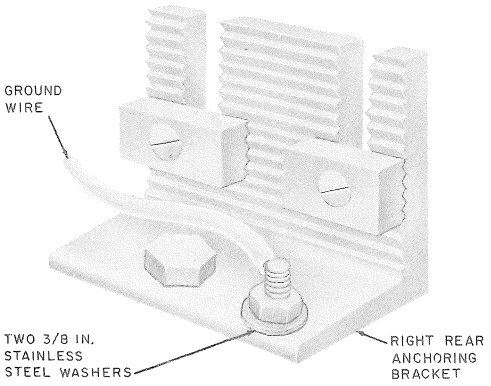

Fig. 9—Grounding Screw in KS-14611 Booth

2-Wire Extension to Booth/Mounting

9.06 Fig. 17 shows a branch circuit extended from a building without a third wire for power grounding at the booth. Where continuous metallic conduit is used, the conduit serves as ground conductor.

9.07 The continuity to ground is assured by connecting the neutral to the booth through a strap placed on receptacle. When this is done, a power-grounding electrode must be provided at the booth.

10. BRANCH CIRCUIT WITHIN A BUILDING

10.01 Fig. 18 and 19 show various applications of extending branch circuit within building.

10.02 When the power cable and cord assemblies are not used, and the conduit or cable is fastened directly to booth, grounding is provided as outlined in Part 9.

11. BSP REFERENCES

11.01 Refer to Section 460-100-100 for Station Protection Required for Various Conditions of Plant.

11.02 Refer to Section 460-100-101 for Station Protectors—Identification and Selection.

11.03 Refer to Section 460-100-200 for Station Protection—Installation and Inspection.

11.04 Refer to Section 460-100-201 for Protector and Signaling Ground.

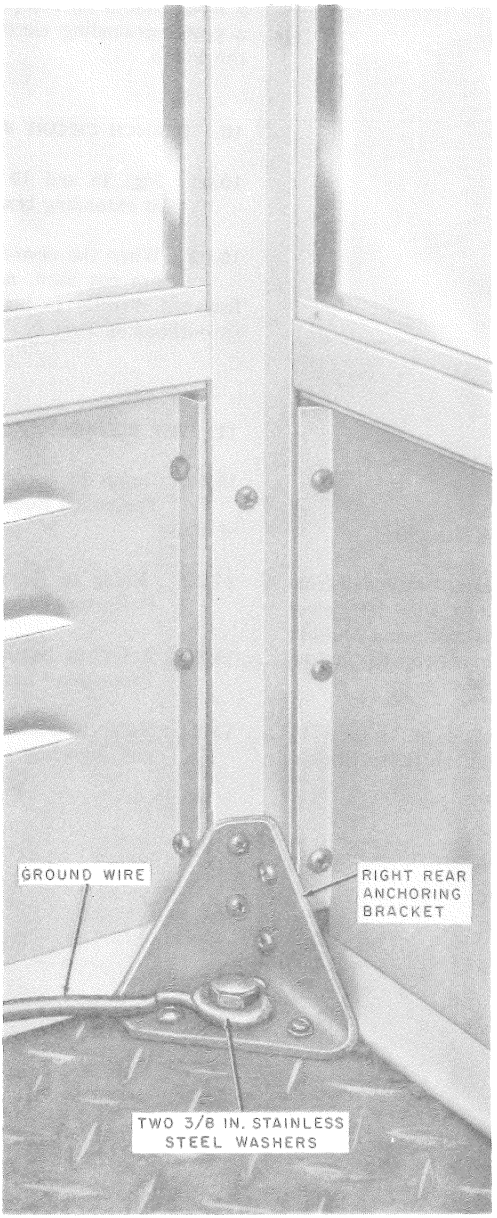

Fig. 10—Grounding Screw in KS-16797 Booth

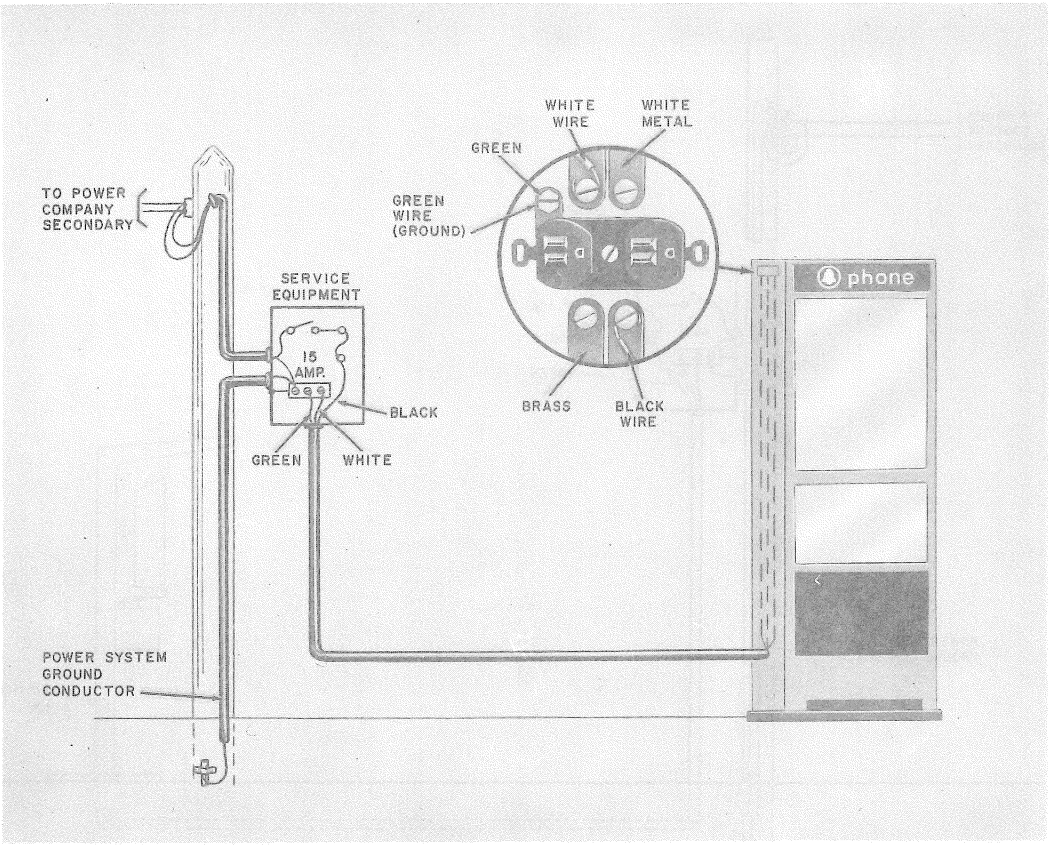

Fig. 11—Individual Power Source to Booth

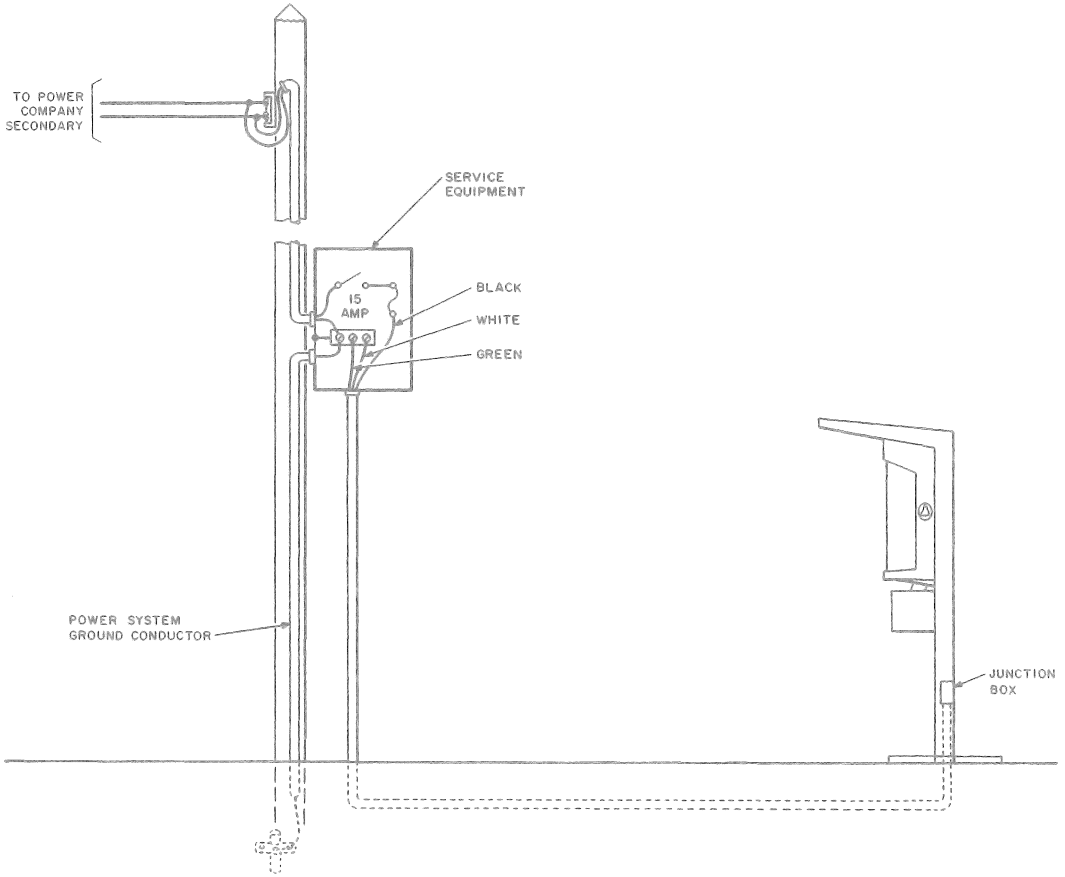

Fig. 12—Individual Power Source to Mounting

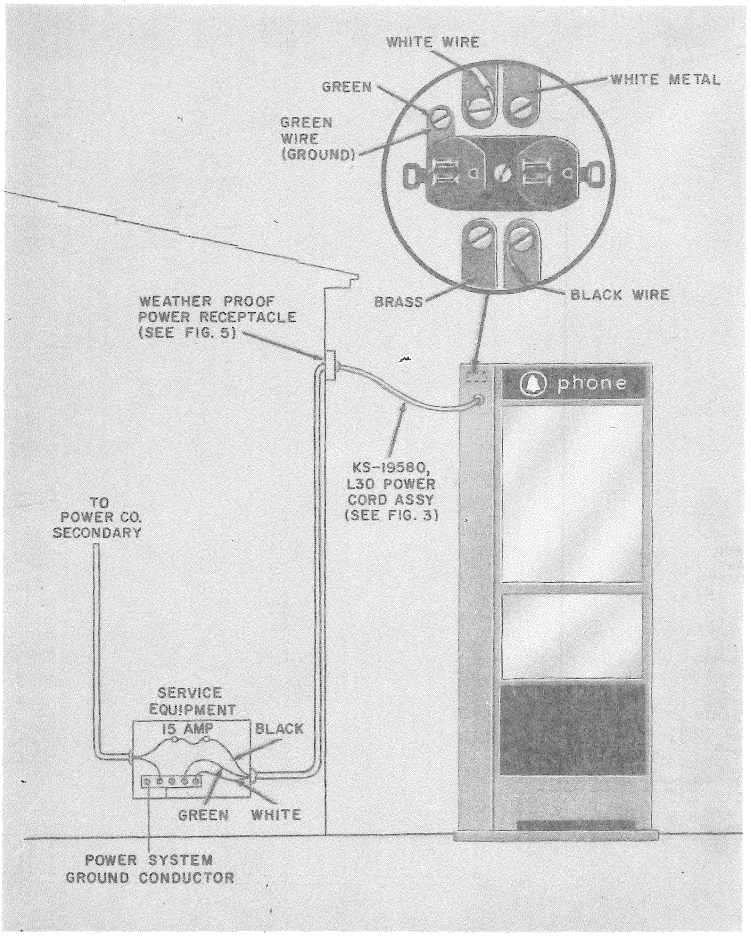

Fig. 13—3-Wire Extension of Branch Circuit to Booth By Means of Power Cord

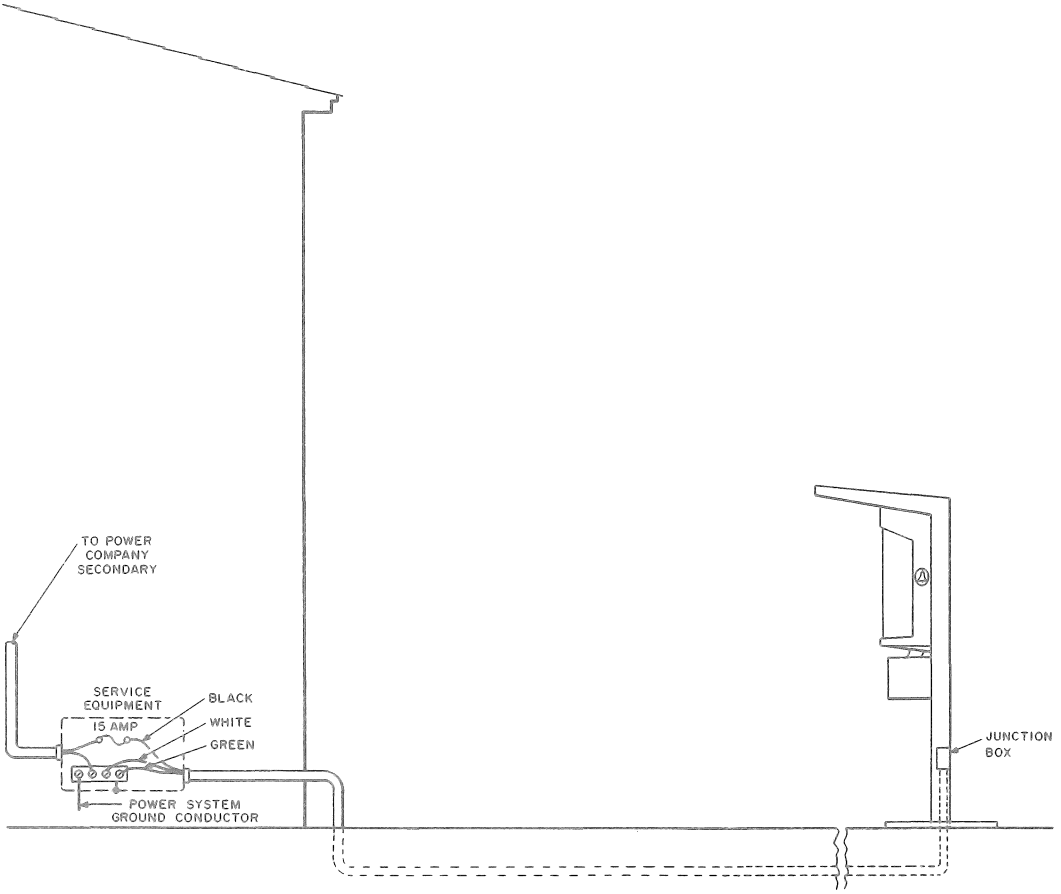

Fig. 14—3-Wire Extension of Branch Circuit to Mounting By Means of Metal Conduit

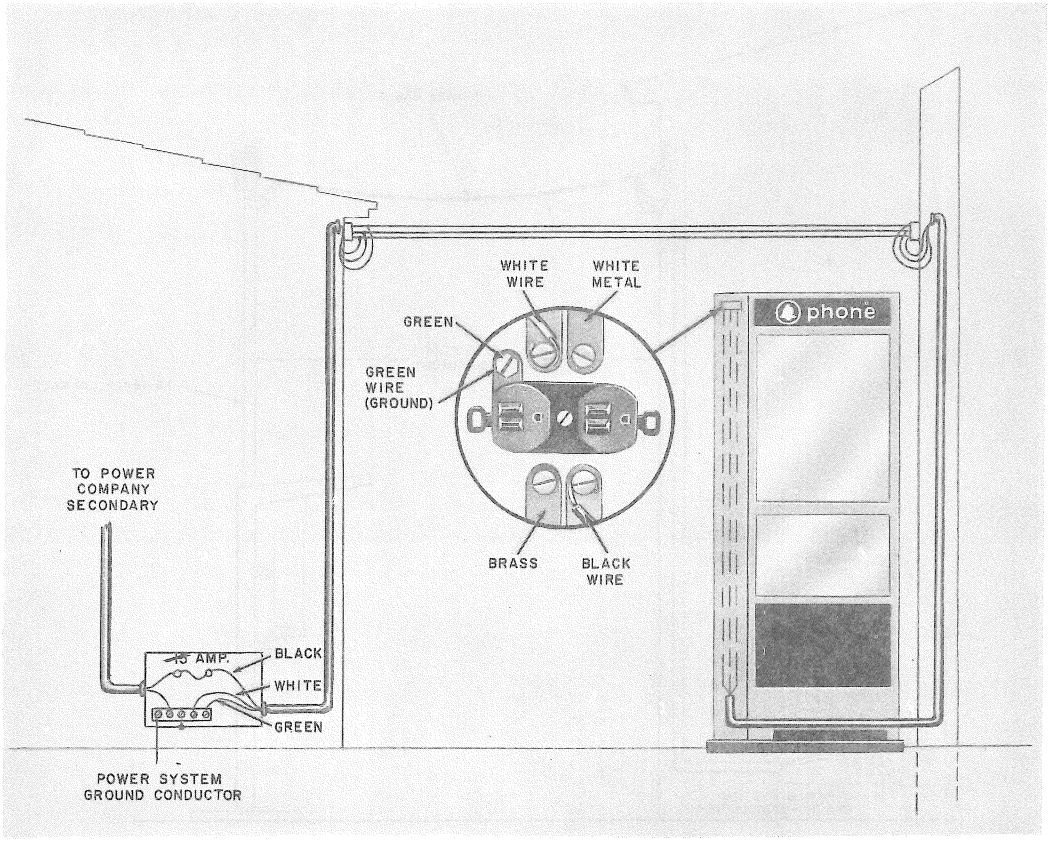

Fig. 15—3-Wire Extension of Branch Circuit to Booth By Means of Open Conductors

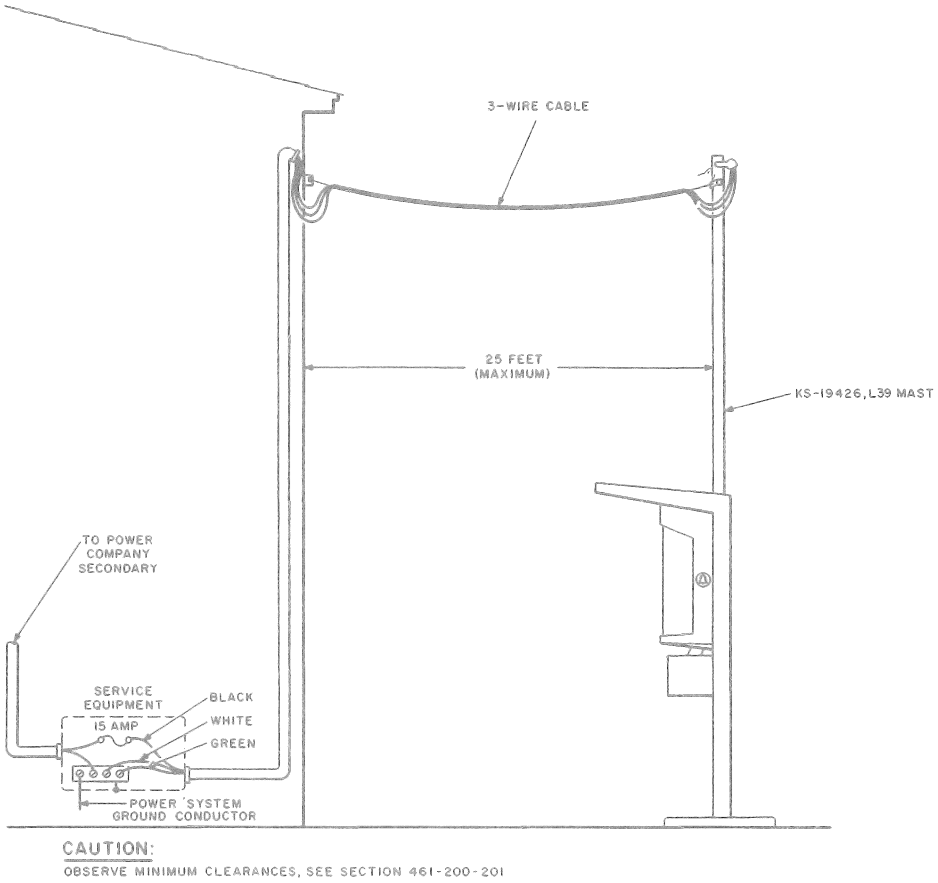

Fig. 16—3-Wire Extension of Branch Circuit to Mounting By Means of 3-Wire Cable

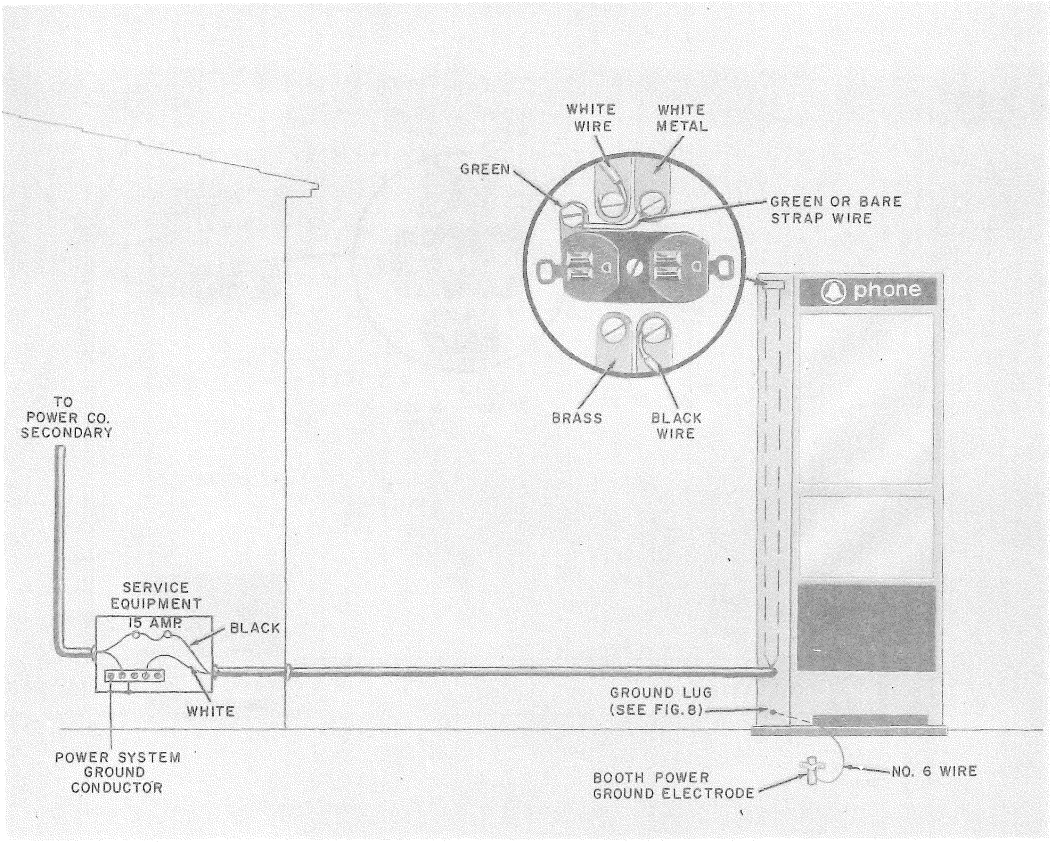

Fig. 17—2-Wire Extension of Branch Circuit to Booth By Means of Metal Conduit

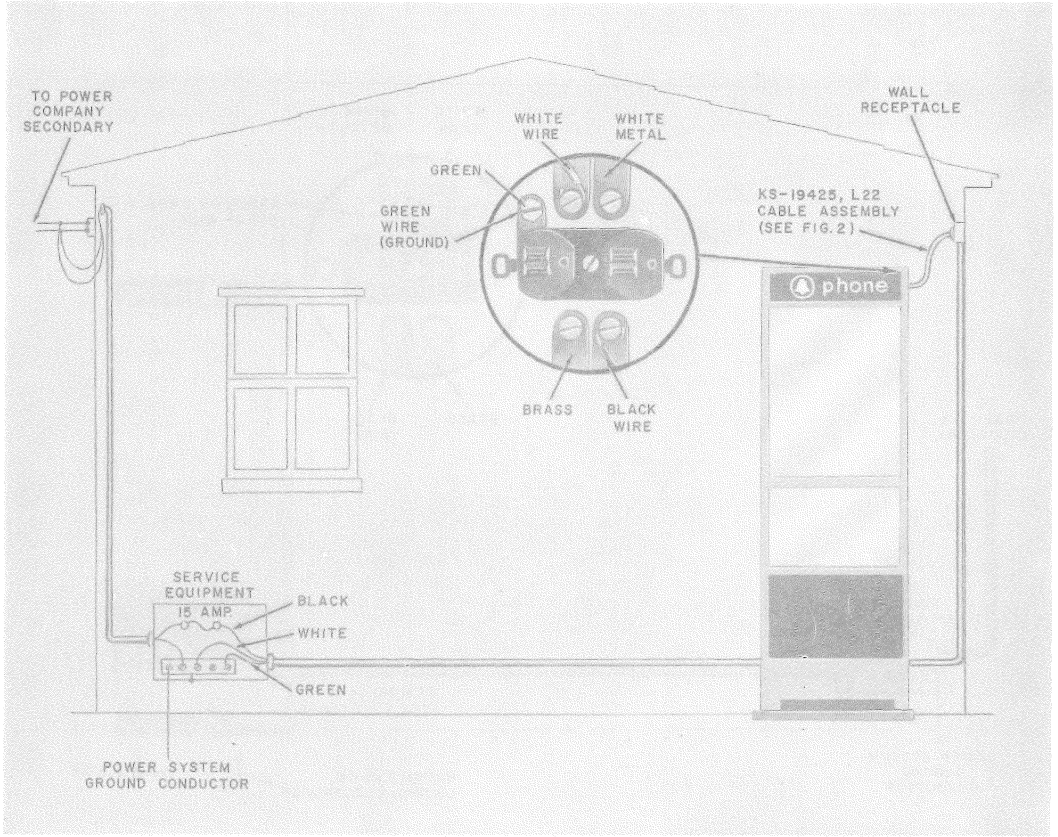

Fig. 18—Booth Located Within Same Building as Branch Circuit

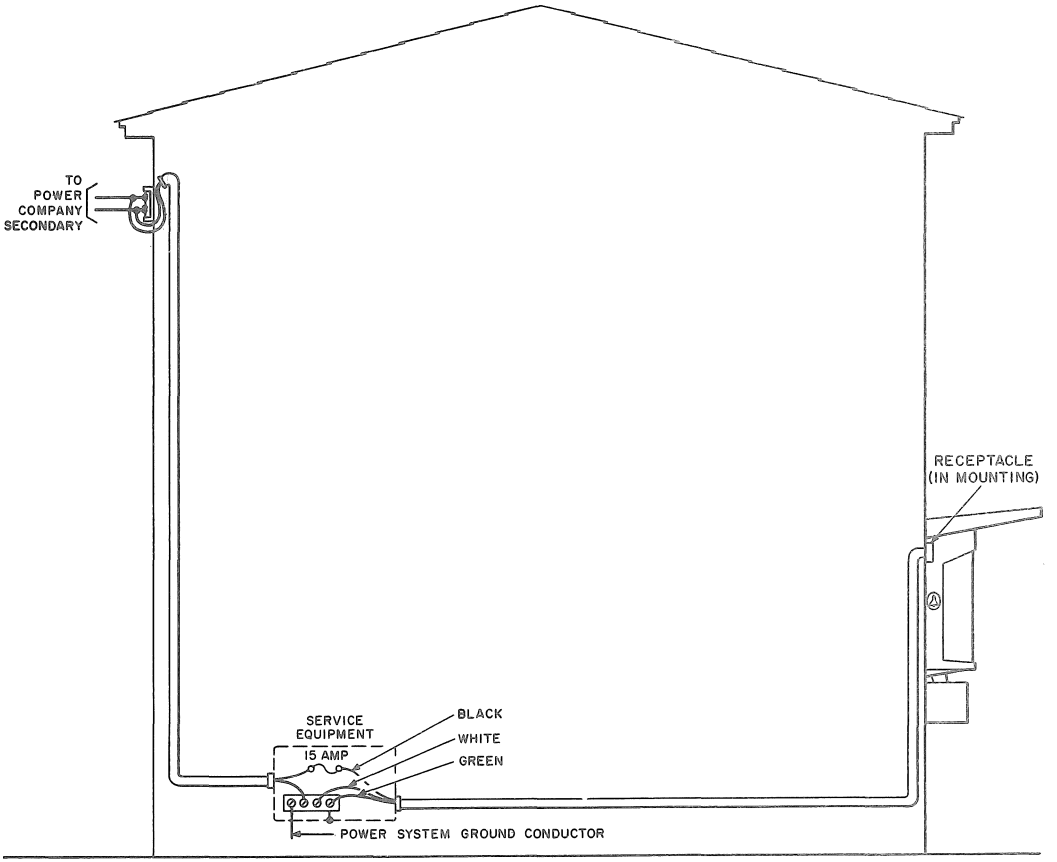

Fig. 19—Mounting Located on Same Building as Branch Circuit

BOOTHS—INDOOR
5, 6, 10, AND 11 TYPES
INSTALLATION

1. 00 INTRODUCTION

1.01 This section provides information for the installation of 5, 6, 10, and 11-type telephone booths. It also includes information on the No. 2 roto-lock.

1.02 Installation of light fixtures, ventilator, and blower are covered in section entitled Booths, Indoor—5, 6, 10, and 11 Types—Installation of Light Fixtures, Ventilator, and Blower.

1.03 For information regarding the 19- and 20-type shelves, refer to section entitled Shelves, Indoor—Installation.

2. 00 LOCATING

Dimensions

2.01 The measurement of 5, 6, 10, and 11-type telephone booth equipped with end panels are:

	Feet	Inches
Width	2	6-1/2
Depth*	2	6-1/2
Height	6	11-1/4

*If equipped with 60- or 62-type back panels, add 9/16 inch.

Preliminary Survey

2.02 If the location specified by the service order (or its attachment) conflicts with the customer's wishes or with any general requirements listed below, consult your supervisor before starting the installation.

- The distance between the front of the booth and any wall or fixture must be 24 inches for access to the booth. When the booth faces the public side of a sales counter or fixture, the distance shall be increased to 36 inches.
- The approach to each booth must be free of hazards such as stairways leading down, trap doors, or flooring in an unsafe condition.
- To prevent damage from excessive heat or water, locate booths away from radiators, steam pipes, hot-air registers, flushing traps, or sinks.
- Booths shall not block access to wall fuse boxes or switches.
- Where practicable, booths shall be installed in well-lighted locations. In darker locations, electric lighting shall be provided for all booths.
- Provide sufficient space over the top of the booth to permit access for maintenance of the booth lighting equipment. If this is not practicable, arrange with the public telephone agent or customer to provide a removable panel or similar facility.
- To avoid inductive effects, obtain as great a separation as possible (minimum 6 inches) between the booth with its associated wiring and neon signs, neon wiring, all transformers, and similar high-voltage devices.
- The booths described herein shall not be exposed to the elements.

3. 00 ASSEMBLING AND PLACING

3.01 Booths are shipped assembled unless the order states that they are to be shipped

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unassembled (knocked down), in which case all screws and other material are included in the shipment.

- Screw holes are aligned to facilitate assembly in the field. When assembled, the sides of the booth unit shall make contact with the separators or panels along their entire length. Assemble booths in accordance with layout shown in Fig. 1.

Booth Panels

3.02 When it is necessary to remove or attach end panels in the 5- or 6-type booths equipped with smooth gold-brown matted linings, remove the corner moldings to gain access to screw holes. The corner moldings are snapped on over clips. To remove, insert the end of the screwdriver behind the molding and turn until the molding snaps off. End panels of other type booths may be attached or removed without distributing corner moldings.

3.03 For booth backs that are:

- ***Exposed,*** install 60- or 62-type panels with the same finish.

- ***Not exposed,*** install a booth having a softwood back.

3.04 When the side of the booth is not exposed or appearance is not important, a panel is not required; however, a booth separator should be installed.

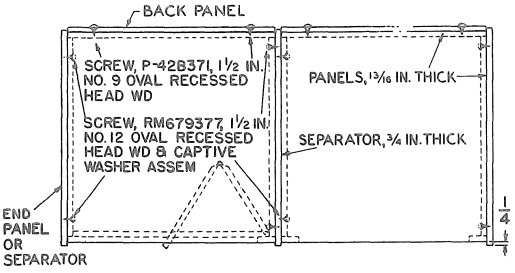

BACK PANEL
SCREW, P-42B371, 1½ IN. NO. 9 OVAL RECESSED HEAD WD
SCREW, RM679377, 1½ IN. NO.12 OVAL RECESSED HEAD WD & CAPTIVE WASHER ASSEM
PANELS, 13/16 IN. THICK
SEPARATOR, ¾ IN. THICK
END PANEL OR SEPARATOR
1/4

Fig. 1—Typical Layout

Leveling Booths

3.05 Set each booth on the floor so that it is level and does not rock. Where the floor is not level or even, place wooden shims under the sides to level it. Be sure to place shims under the middle area of the floor to prevent sagging or flexing. The top of the door must be aligned with the booth door frame when the door is closed.

3.06 The booth must be level so that the coin collector will function properly. Level as follows:

(1) Place a dime (or mark the size of a dime as shown in Fig. 2.

(2) Suspend a plumb line (obtain locally), as shown in Fig. 2, from a tack temporarily located in the center of the top edge of the booth so that it hangs about 1/2 inch from the floor.

(3) Shim the booth, as covered in 3.05, until the plumb line is centered within the area of the dime or mark.

3.07 Avoid setting booths on floors with considerable slope such as ramps or inclined passageways between rooms. When locations such as these cannot be avoided, be sure each booth is placed level with a minimum step-up-to enter. In multiple installations of this type:

- Attach separator to highest booth first.

- Line up the booths so their fronts and tops present a straight line before attempting to fasten them together.

- Any exposed gap of 1/4-inch or more between the floor and the booth shall be sealed with strips of wood, stained to match the finish of the booth.

4. 00 INSTALLATION OF TELEPHONE WIRING

4.01 In selecting the type wire or cable, refer to the section entitled Selection of Wire and Cable.

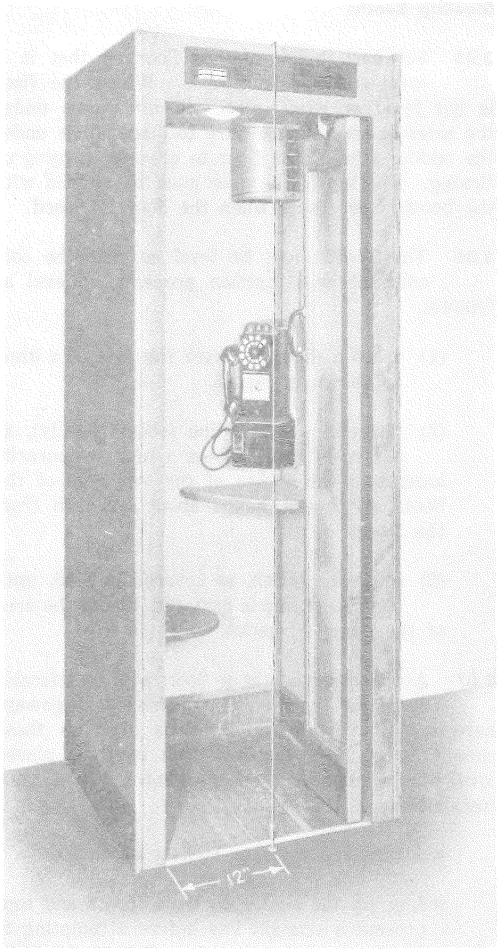


Fig. 2—11-Type Booth With Plumb Line

4.02 Signaling grounds are given in the table.

Number of Booths	Options		
	Cable Pairs	Conductors of Station Wire	No. 14 Ground Wire
1 to 6	1	1	
6 to 12	2	2	1
12 or more	1 per 6 booths	1 per 6 booths	1

4.03 Where triple wire is used, it shall be run to the connecting block of each booth. Booths are equipped with either a 3- or 4-type light fixture, and the connecting block for termination is mounted on a bracket attached to the side of the light fixture.

4.04 For multiple-booth installations, inside wiring cable shall be terminated on a suitable connecting block installed in the ceiling of one of the booths or in the immediate vicinity.

- To gain access to this connecting block, open the lens in the light fixture from the inside of the booth. Use a screwdriver to open the 4-type fixture, and a 544A key to open the 3-type fixture.

5.00 BOOTH PARTS AND FASTENERS

Locations of booth parts and fasteners for each part are shown in Table A and Fig. 3.

6.00 INSTALLATION OF NO. 2 ROTO-LOCK

6.01 The No. 2 roto-lock, which is used to lock doors of indoor- and outdoor-type wooden booths at attended locations, is installed as illustrated in Fig. 4 and described in 6.02.

6.02 Install the No. 2 roto-lock as follows:

(1) Remove the guide pin and door stop to enable the booth door to swing out.

(2) Drill and cut out mortise in booth header, observing dimensions in Fig. 4.

TABLE A

Booth Part or Fixture	Location in Booth	Fasteners
Backboard, 167A	Right-rear corner, top of backboard 63 inches from floor without seat, and 52-1/2 inches with seat.	Six 1/4-inch — 20 x 1-5/8 inch hex-head cap screws and 1/4-inch — 20 tee nuts.
Blower, KS-14125	Ceiling of booth over coin collector.	Fittings furnished with equipment.
Booth Cutout Switch or Plug Fuse Cutout	Top of ceiling.	Two 1/2-inch No. 8 RH blued wood screws.
Card Frame, KS-14123 List 1—Frame Only List 2—Glass Window List 3—Plastic Window List 4—Frame with Glass Window List 5—Frame with Plastic Window	See Fig. 3.	Four 3/4-inch No. 8 FH bright wood screws.
Light Fixture, 2-type (directory)	Centered on end panel.	Two 5/8-inch No. 8 RH brass wood screws.
Roto-lock, No. 2	See Fig. 4.	Shown in Fig. 4.
Seat, 101T or U	Left-rear corner with top of seat 20 inches from floor.	Seven 1-1/4 inch No. 14 RH blued wood screws, four 1-1/4 inch 20 x 1-inch hex-head screws, and 1/4-inch — 20 tee nuts.
Shelf, 18A, C, or D	See Fig. 3.	Six 3/4-inch No. 8 RH blued wood screws.
Shelf, 18E	See Fig. 3.	Six 7/8-inch No. 8 Phillips-type OH wood screws, zinc-plated; and No. 8 countersunk washers, nickel-plated.
Ventilator, KS-8164	Ceiling of booth over coin collector.	Fittings furnished with equipment.

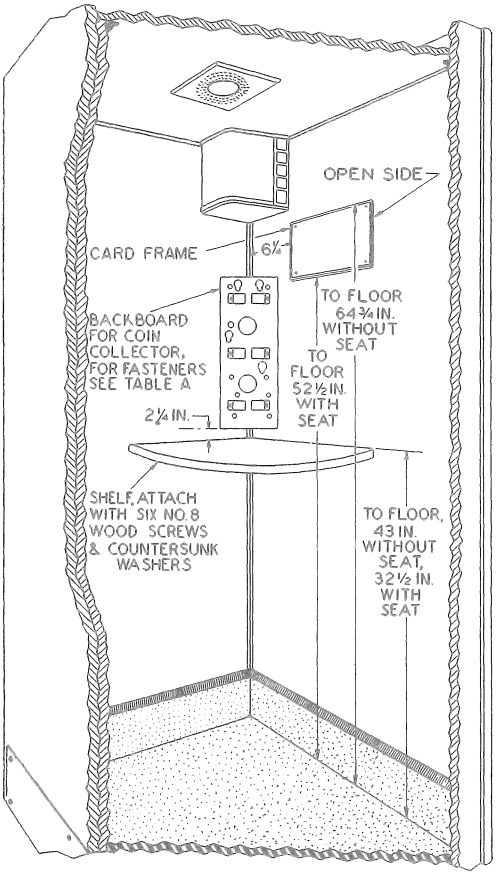
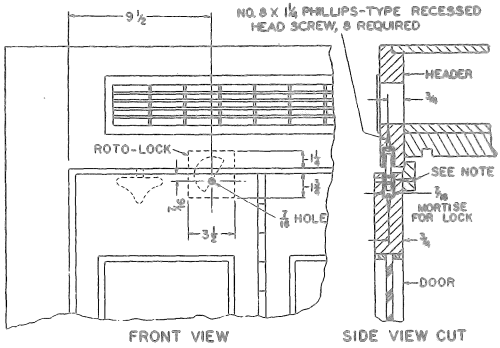

OPEN SIDE
CARD FRAME
6¼
BACKBOARD FOR COIN COLLECTOR, FOR FASTENERS SEE TABLE A
2¼ IN.
TO FLOOR 64¾ IN. WITHOUT SEAT
TO FLOOR 52½ IN. WITH SEAT
SHELF, ATTACH WITH SIX NO. 8 WOOD SCREWS & COUNTERSUNK WASHERS
TO FLOOR, 43 IN. WITHOUT SEAT, 32½ IN. WITH SEAT

Fig. 3—Locating Booth Accessories

(3) Mount male and female components flush with surface of door and header.

(4) Viewed from the outside, the lock shall be assembled so as to engage when turned in a clockwise direction.

(5) A 5/6-inch hexagonal Allen-type wrench is used to lock or open the No. 2 roto-lock through a 7/16-inch diameter opening in the outside of the door.



Note: Replace P-381074 (1-1/2 inch) door-stop screws with 1-inch wood screws (three required).

Fig. 4—Installing the No. 2 Roto-lock

KS-19340 BOOTH (INDOOR)

INSTALLATION

1. GENERAL

1.01 This section is reissued to:

- Change signs
- Add information on backboards
- Add information on card frame

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

2. LOCATING

2.01 The overall dimensions of a single booth are:

- Height—83-1/8 inches
- Width—30-3/8 inches
- Depth—30-1/2 inches

2.02 The overall width of multiple installations (up to five) is shown in Table A.

TABLE A

NO. OF BOOTHS	OVERALL WIDTH
2	5 Ft.
3	7 Ft. 5-5/8 In.
4	9 Ft. 11-1/4 In.
5	12 Ft. 4-7/8 In.

2.03 Booth location should be:

- Within full view of public
- Readily accessible to customer
- Free of hazards
- Away from heat, flushing traps, or sinks
- Clear of wall switches, outlets, or fuse boxes
- In sufficient space to permit access to top of booth for maintenance purposes.

3. ASSEMBLING AND PLACING

3.01 Booths are shipped assembled unless order states otherwise. When shipped unassembled, all necessary screws and material are included in the shipment.

Screw holes are aligned to simplify assembly in the field. When assembled, the sides of the booth unit shall make contact with the panels or separators along entire length of the booth unit.

PANELS AND SEPARATORS

3.02 End panels and separators are attached with eight No. 10 by 1-3/4 BH wood screws. The back panel is attached with ten No. 9 by 1-3/4 FH wood screws.

3.03 A booth separator may be substituted for a finished end panel when the end of the booth is not exposed.

LEVELING

3.04 Set booth level on floor so that it does not rock. Where floor is uneven or not level, place wooden shims under the proper side of booth to level it. Shims also should be placed under the middle of floor to prevent sagging. To prevent binding, the top of door must be aligned parallel with booth door frame when door is closed.

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3.05 The booth must be level to insure proper operation of the coin telephone. Level as follows:

(1) Place a dime (or mark a 3/4 in. circle) as shown in Fig. 1.

(2) Suspend a plumb line (obtain locally), as shown in Fig. 1, from a tack placed temporarily in center of top edge of booth.

(3) Shim the booth, as described in 3.04, until the plumb line is centered within area of dime or marked circuit.

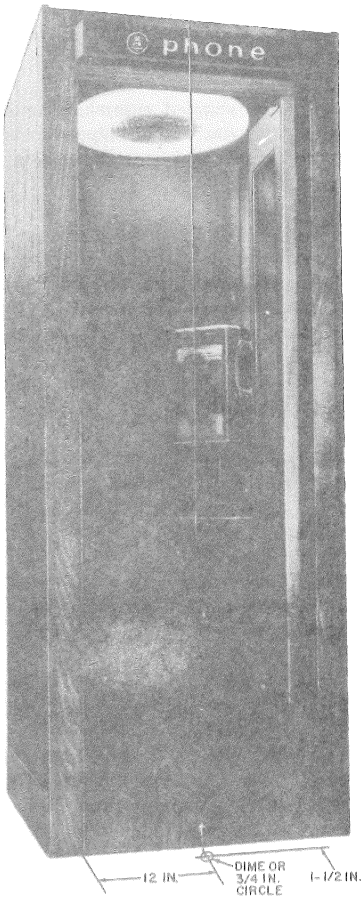


Fig. 1—KS-19340 Booth With Plumb Line

3.06 Avoid setting booths on floor with considerable slope such as ramps or inclined passageways. When this location cannot be avoided, be sure each booth is placed level with a minimum amount of step-up. In multiple installations of this type:

- Attach separator to highest booth first.
- Line up booths so that the fronts present a straight line before attempting to fasten them together.
- Exposed gap of 1/4-inch or more between the floor and the booth requires sealing with strips of wood. Stain strips to match the finish of the booth.

4. TELEPHONE WIRING

4.01 When selecting the type wire or cable, refer to section entitled Selection of Wire and Cable.

4.02 Signaling ground requirements are shown in Table B.

TABLE B

NUMBER OF BOOTHS	OPTIONS		
	CABLE PAIRS	CONDUCTORS OF STATION WIRE	NO. 14 GROUND WIRE
1 to 6	1	1	1
6 to 12	2	2	1
12 or more	1 pr per 6 booths	1 pr per 6 booths	1

4.03 When using triple conductor wire, run wire to the 42A connecting block of each booth. This connecting block is located in the ceiling on the rear of the booth.

To gain access to this connecting block, remove the roof assembly which is held in place by four No. 9 by 1-inch flathead screws.

4.04 Inside wiring cable terminates on a suitable connecting block. This block should be installed in the immediate vicinity or in the ceiling of one booth.

4.05 When a subscriber set is required, drill a 5/8-inch hole for access to the wiring channel in accordance with Fig. 2.

THINK *Exercise care when drilling to prevent bit from marring end panel.*

5. SUBSCRIBER SET INSTALLATION

5.01 The writing shelf is provided with brackets for accepting the KS-19340, List 55 subscriber set mounting kit.

5.02 The KS-19340, List 55 kit may be ordered separately if necessary. Install the kit in accordance with Fig. 3. All hardware is furnished as part of the kit.

6. TELEPHONE INSTALLATION

6.01 If 200-type coin collector or 1A-type coin telephone is installed, KS-19340, List 53 backboard must be used.

6.02 If 2A- or 235-type coin telephone is installed, KS-19340, List 54 backboard must be used.

Note: Unless otherwise specified, all KS-19340 booths are equipped with List 53 backboards.

7. KS-19340, LIST 56 SIGN CONTROL ASSEMBLY INSTALLATION

7.01 The KS-19340, List 56 sign control assembly (Fig. 4) is optional. It may be used to provide switch control for the illuminated KS-16422 telephone sign when it is installed in the vicinity of the booth.

7.02 If it becomes necessary to add this assembly to an existing booth, perform the following operations:

(1) Remove four wood screws and remove roof from booth.

(2) Mark the location for drilling a hole in ceiling in accordance with Fig. 5.

(3) Using a large expansive bit or equivalent, drill a 1-5/16 inch diameter hole in the position marked to a depth of approximately 1/8-inch.

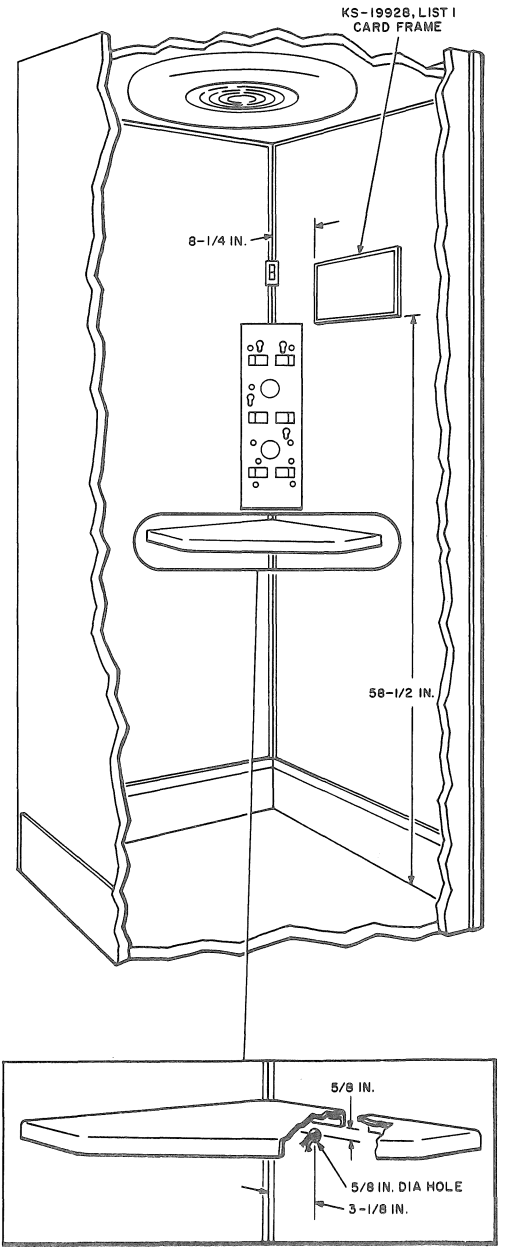


Fig. 2—Requirements for Subscriber Set Wire Access Hole and Card Frame

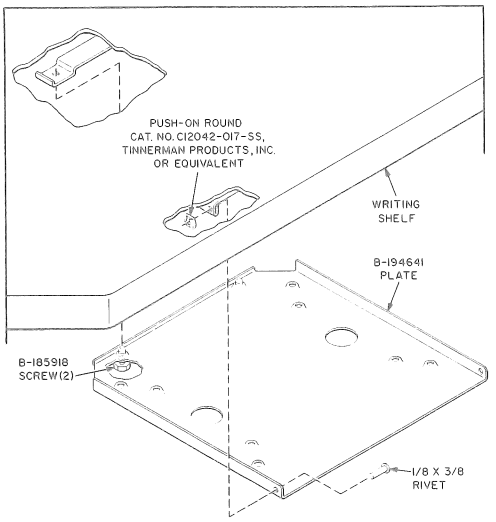


Fig. 3—KS-19340, List 55 Subscriber Set Mounting Kit

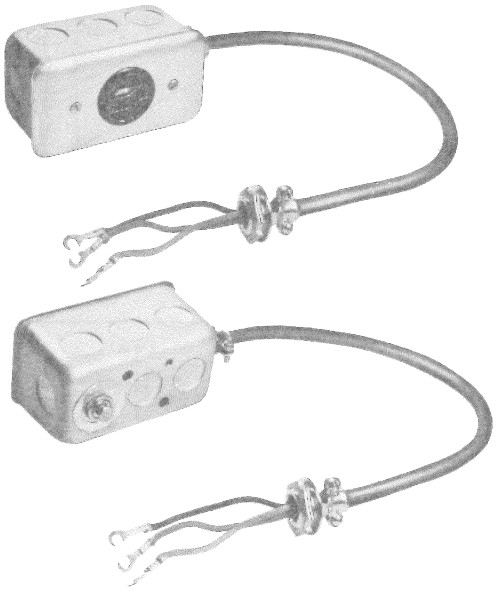


Fig. 4—KS-19340, List 56 Sign Control Assembly

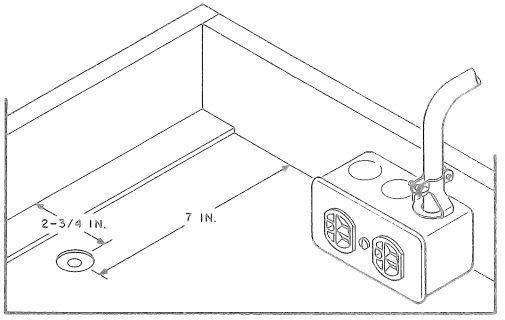
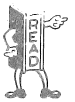


Fig. 5—Location of Hole for Sign Control Assembly



This 1-5/16 inch hole will accept the ring nut on the switch (Fig. 5)

(4) Complete the drilling of the hole through the ceiling using a 1/2-inch bit.

Use extreme care when the bit breaks through the ceiling to prevent splintering.

(5) Remove the cover from the receptacle housing of the sign control assembly.

(6) Secure the sign control assembly in the position shown in Fig. 6 with the switch plunger protruding through the hole drilled in (4).

(7) Secure the receptacle housing to the ceiling using two No. 10 by 3/8 RH wood screws.

(8) Connect the cable of the sign control assembly to the electrical receptacle (Fig. 6).

(9) Install the roof on the booth using four No. 9 by 1-inch FH wood screws.

8. ELECTRICAL WIRING

8.01 A 3-wire, grounded electrical outlet should be provided at booth location. Ensure that the third wire is grounded.

8.02 The booth is equipped with a KS-19425, List 22 cable assembly. This assembly is a rubber-covered 3-wire cord 64 inches long equipped with a 3-wire plug which terminates in the electrical receptacle located in the ceiling of the booth.

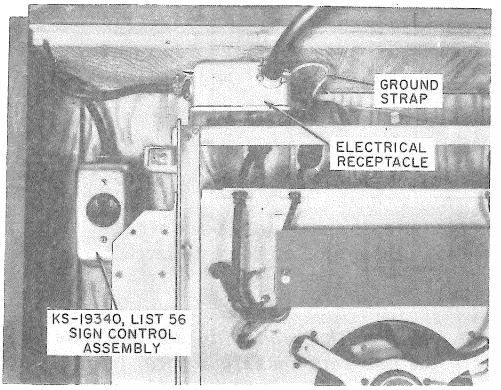


Fig. 6—Location of Sign Control Assembly

THINK

A ground wire (Fig. 6) (No. 14 gauge) is connected between the ground terminal of the electrical receptacle and the backboard. The purpose of this ground wire is to prevent exposing customers to electric shock from defective current-carrying coin telephone mounted in the booth. Verify that there is continuity between the ground terminal in the electrical plug and the coin telephone.

8.03 Connect the power cord to the spare receptacle of adjacent booth in multiple installations.

9. KS-19928, LIST 1 CARD FRAME INSTALLATION

9.01 Locate card frame per Fig. 2 and install as directed in Section 508-811-100.

KS-19206 BOOTH

INSTALLATION

1. GENERAL

1.01 This section is reissued to:

- Include adjustment procedures for door operated micro switch
- Revise illustrations

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.02 The KS-19206 curved door booth is designed for indoor use only.

1.03 The overall dimensions of the booth are:

- Height — 83-1/8 inches
- Width — 33 inches
- Depth — 31-1/2 inches (front sign projects 1 inch beyond this dimension)

2. INSTALLATION OF BASIC BOOTH

2.01 Before beginning the installation, be sure location specified on the service order corresponds with customers' wishes.

2.02 Booth location should be:

- Within full view of public
- Readily accessible to customer
- In a well lighted area
- Free of such hazards as stairways, narrow passageways, uneven or unsafe floors
- Free of heating vents, radiators, sinks, fuse boxes, or switches
- Free from areas subject to water

2.03 For proper coin collector operation, the booth should be level and stable. Where floor is uneven or not level, place wooden shims under the proper side of booth to level it.

Ensure that shims do not protrude so as to create a safety hazard.

2.04 Leveling can be determined by use of a carpenter's level or a plumb line. Either may be obtained locally.

2.05 Place shims under the middle of booth floor where there is a possibility of sagging.

2.06 Avoid setting booths on floors with considerable slope such as ramps or inclined passageways. When this condition cannot be avoided, place booth with a minimum amount of step-up.

3. DOOR OPERATION

3.01 The door should be adjusted to operate properly when the booth leaves the distributing house because there is only one adjustment that can be made in the field. This can be accomplished as follows: Loosen the two clamping screws at the bottom of door which secure door roller. The roller can be adjusted approximately 1/8 inch.

3.02 For proper operation, ensure that the booth floor and header assembly do not sag and that door rollers roll smoothly in tracks.

3.03 Remove door stop and verify that door slides easily over its full travel and closes snugly.

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4. DOOR OPERATED SWITCH

4.01 The blower motor and, in some cases, the light fixture are controlled by a door operated micro switch assembly (B-650626) (Fig. 1). If the switch is not making or breaking properly, it should be adjusted as follows:

(1) Remove roof from booth.

(2) Loosen the adjusting screw (Fig. 1).

(3) Slide the switch mounting plate in or out as necessary.

(4) Open and close the door to determine the proper switch position.

(5) Tighten the adjusting screw..

(6) Install the roof.

5. TELEPHONE WIRING

THINK *When working over head, wear eye protection*

5.01 When selecting the type wire or cable, refer to section entitled Selection of Wire and Cable.

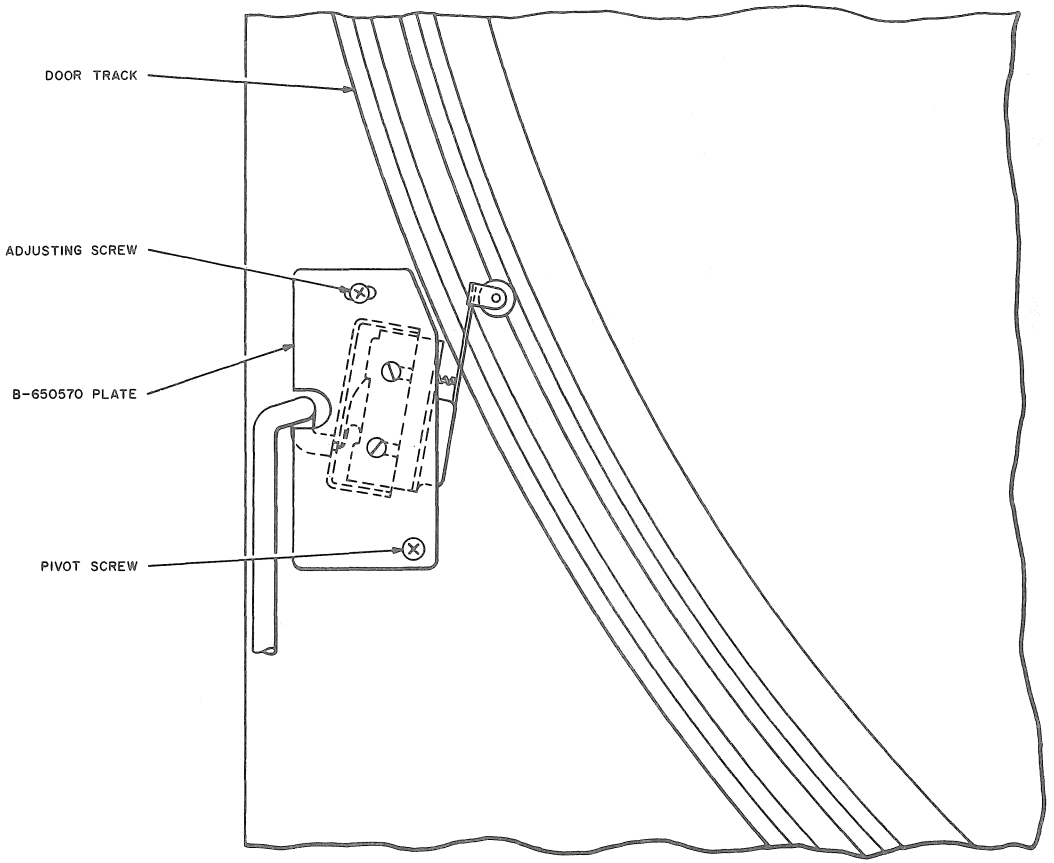

Fig. 1 — B-650626 Door Operated Micro Switch Assembly

5.02 Signaling ground requirements are shown in Table A.

TABLE A

NUMBER OF BOOTHS	OPTIONS		
	CABLE PAIRS	CONDUCTORS OF STATION WIRE	NO. 14 GROUND WIRE
1 to 6	1	1	1
6 to 12	2	2	1
12 or more	1 pair per 6 booths	1 pair per 6 booths	1

5.03 To make wiring accessible remove dome assembly and work from inside of booth or remove the roof retaining screws and slide roof forward as shown in Fig. 2.

5.04 Insert station wire through roof grommet, through the cable clamp, and terminate on the 42A connecting block (Fig. 2) or 123A protector.

5.05 Ensure that station wire leading to coin telephone is properly terminated on the connecting block or protector.

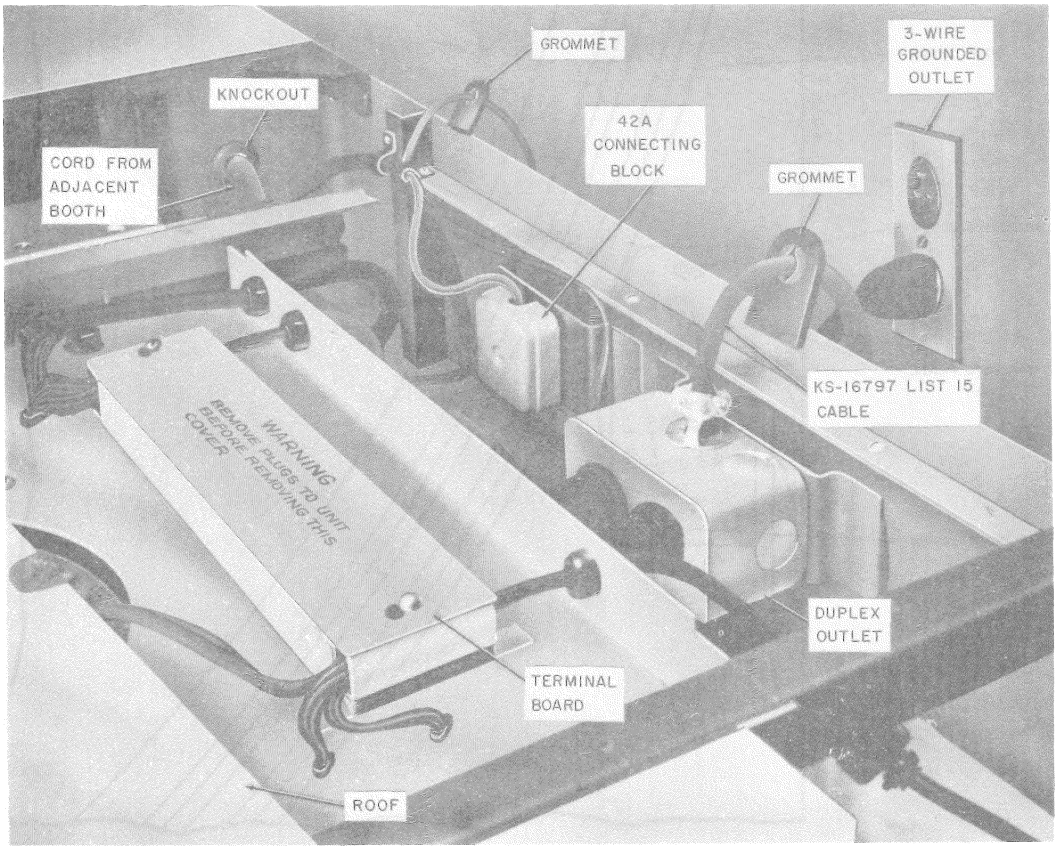

Fig. 2 — Partial View of Ceiling Area

6. INSTALLATION OF COIN TELEPHONE

A KS-19206 List 5, List 6, or List 7 coin telephone installation kit must be used in conjunction with the coin telephone.

LIST 5 KIT (FOR 233- OR 234-TYPE COIN COLLECTOR)

6.01 Install the backboard portion of the List 5 kit in accordance with Fig. 3.

6.02 A 685-type subscriber set must be used with a 233- or 234-type coin collector. This subscriber set is mounted under the shelf with brackets, mounting plate, and hardware furnished with the List 5 kit.

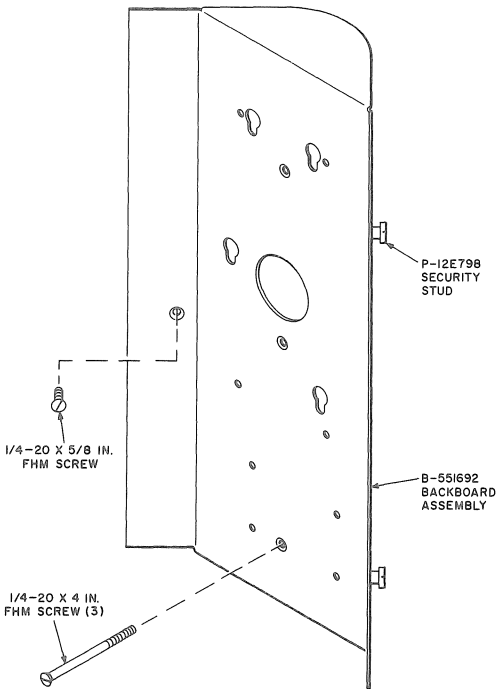

Fig. 3 — KS-19206, List 6 Coin Telephone Installation Kit or Backboard Portion of List 5 Kit

6.03 Install the subscriber set mounting plate in accordance with Fig. 4.

6.04 Sufficient wire is furnished with the List 5 kit for connecting the subscriber set to the coin collector.

LIST 6 KIT (FOR 1A1 OR 236G COIN TELEPHONE)

6.05 Install KS-19206, List 6 kit in accordance with Fig. 3.

LIST 7 KIT (FOR 2A1 OR 235G COIN TELEPHONE)

6.06 Install KS-19206, List 7 kit in accordance with Fig. 5.

6.07 Install the coin collector/telephone in accordance with standard telephone procedures.

Note: Knockouts are available at top of booth on both sides and back for interconnecting telephone and electric wires in multiple installations.

7. ELECTRIC WIRING

7.01 A 3-wire, grounded electrical outlet should be provided at booth location. Ensure that the third wire is grounded.

7.02 The booth is equipped with a KS-19425, List 22 cable assembly which terminates in the electrical receptacle located in the ceiling of the booth.

7.03 Connect the power cord to the spare receptacle of adjacent booth in multiple installations. See note following 6.07.

7.04 Internal electrical wiring can be checked on the terminal board located on ceiling above the light fixture (Fig. 2).

Be sure light fixture power cord is removed from power receptacle before removing cover plate from terminal board.

7.05 For wiring information on the KS-19207, List 1 light and blower unit, refer to Section 508-820-100.

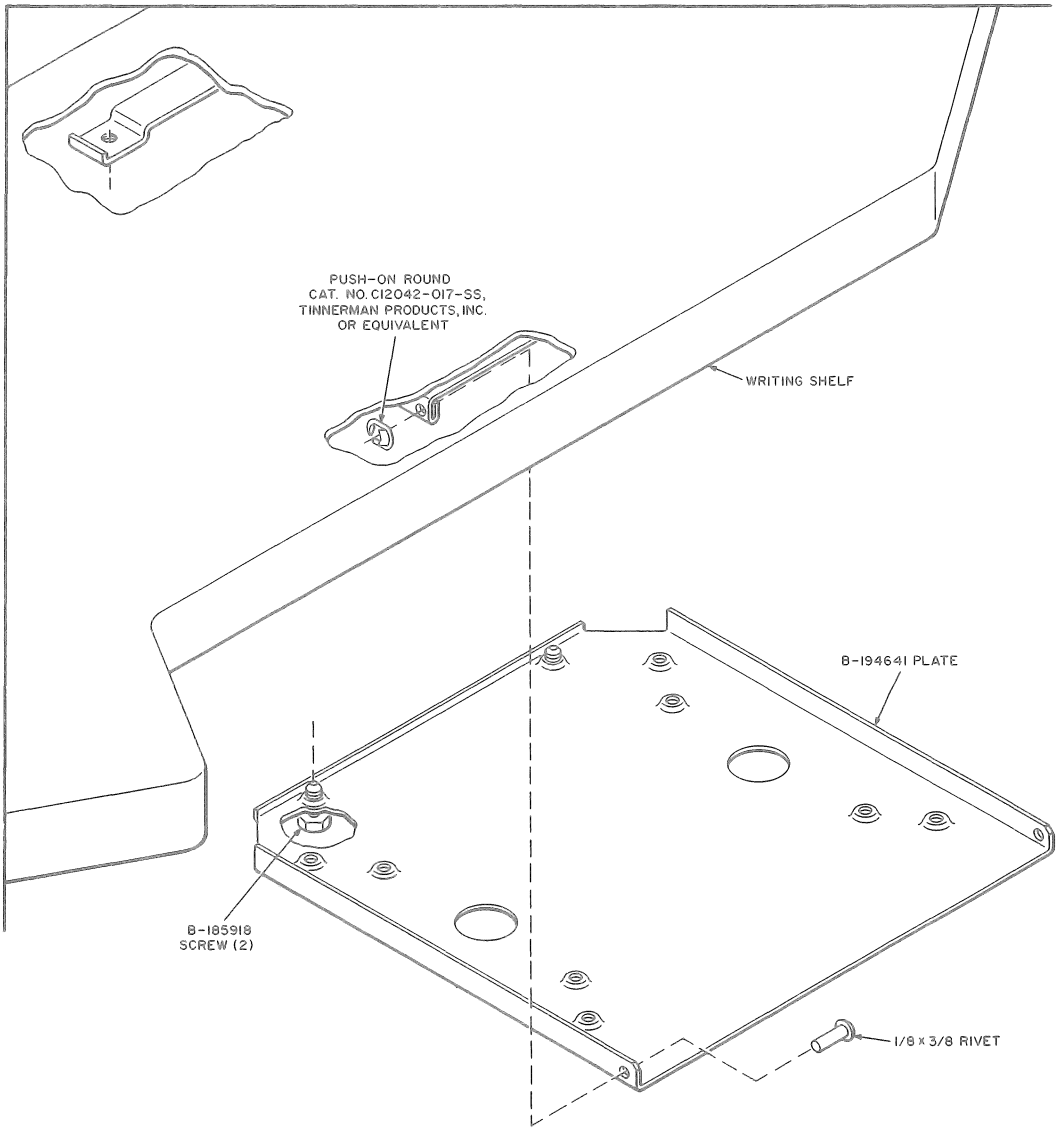

Fig. 4 — Installation of Subscriber Set Mounting Plate

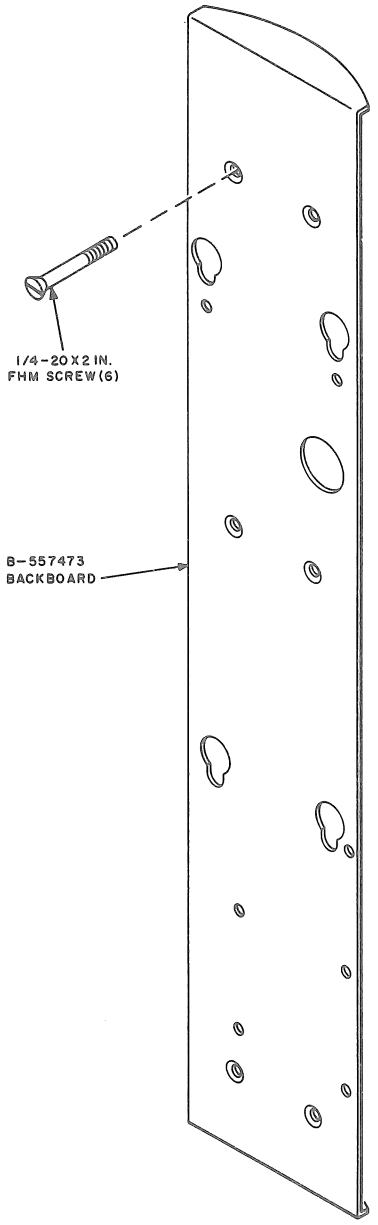

Fig. 5 — KS-19206, List 7 Coin Telephone Installation Kit

8. MULTIPLE INSTALLATIONS

8.01 When installing the KS-19206 booth in multiples, use a KS-19206, List 10 multiple booth installation kit and install it as follows (Fig. 6).

(a) Remove adjacent trim strips from each booth and retain the screws.

When removing the trim strips, use care when removing the first screw because the strip may spring out.

(b) Fasten the booths together at top and bottom using two B-555939 plates and four No. 8-18 by 3/8 RH self-tapping screws.

(c) Install the B-551960 angle over the adjacent corners of the two booths and secure it using the four No. 8-18 by 3/8 pan head self-tapping screws retained in (a).

9. FRONT SIGNS

9.01 The front signs are illuminated by 30-inch, 20-watt fluorescent lamps. See Section 508-115-300 for additional information.

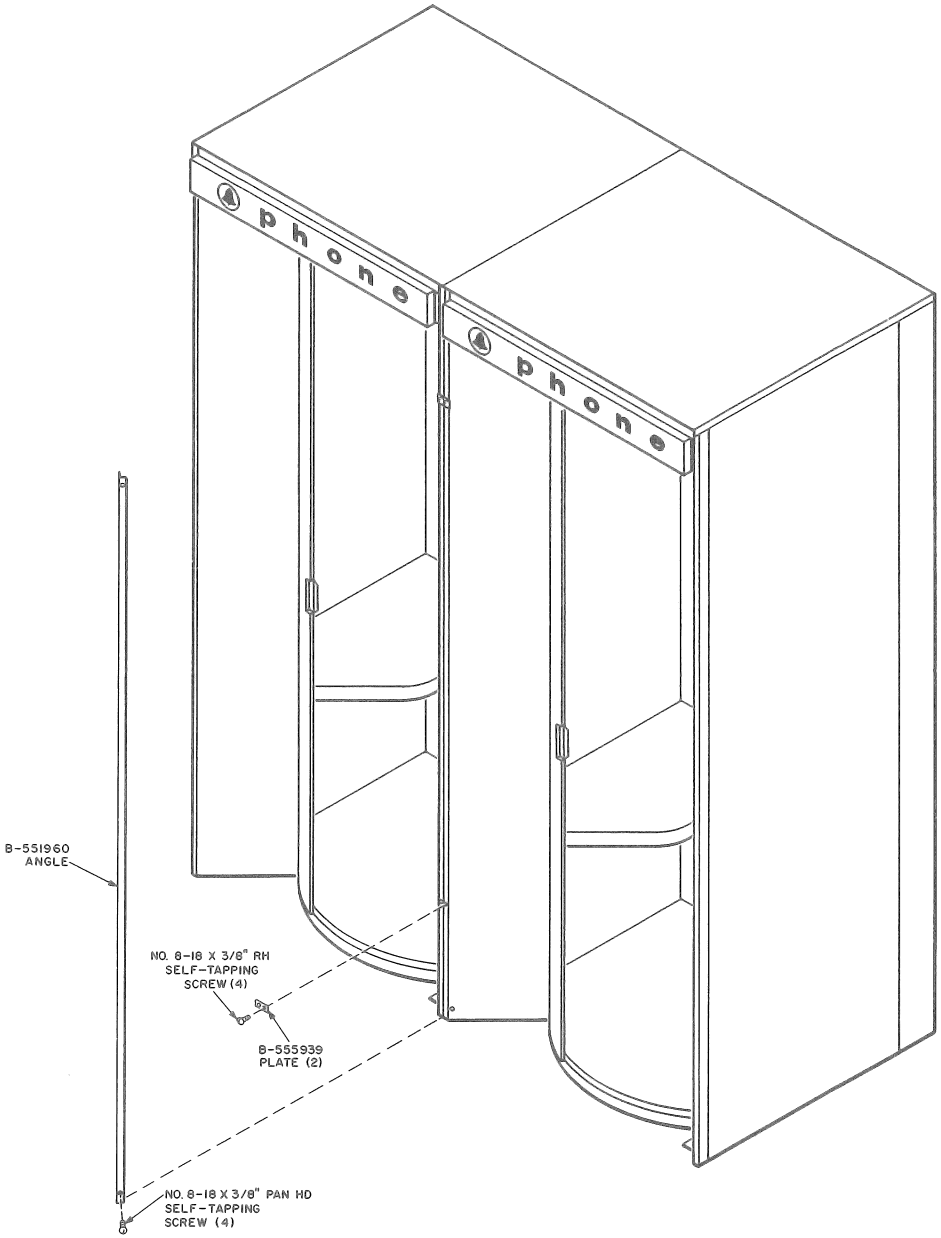

Fig. 6 — KS-19206, List 10 Multiple Installation Kit

SHELVES — INDOOR

19 AND 20 TYPES

INSTALLATION AND MAINTENANCE

1. GENERAL

1.001 This addendum supplements Section 508-120-200, Issue 1.

1.002 This addendum is issued to revise cleaning methods.

1.003 Delete the information in 4.01 and substitute the following:

Clean the shelves in accordance with Section 770-170-308.

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SHELVES—INDOOR
19 AND 20 TYPES
INSTALLATION AND MAINTENANCE

1. 00 GENERAL

1.01 If the location specified on the service order (or its attachment) conflicts with the customer's wishes or with any of the general requirements listed below, consult your supervisor before starting the installation.

- Location should be easily accessible to the public.
- Approach to the shelf shall be free of hazards such as a nearby staircase leading down, a trap door, or a floor in poor condition.
- Shelf should be away from radiators, steam pipes, or registers to prevent damage to the shelf or apparatus from excessive heat or water.
- Mountings should not be exposed to the weather.

2. 00 19-TYPE SHELF

2.01 The 19-type shelf may be located:

- Singly, as shown in Fig. 1.
- In a corner (narrow end should face the wall), as shown in Fig. 2.
- In groups (when installed in this manner, directory compartment serves as a partition affording some degree of privacy).

2.02 Locate bottom of shelf 43 inches above floor level. When a lower mounting is necessary, such as in a veterans' hospital, the steel seat bracket (or a similar approved support) used in telephone booths should be placed under the shelf to guard aganist possible damage to the shelf should someone use it as a seat.

Fig. 1—Singly Mounted 19-Type Shelf

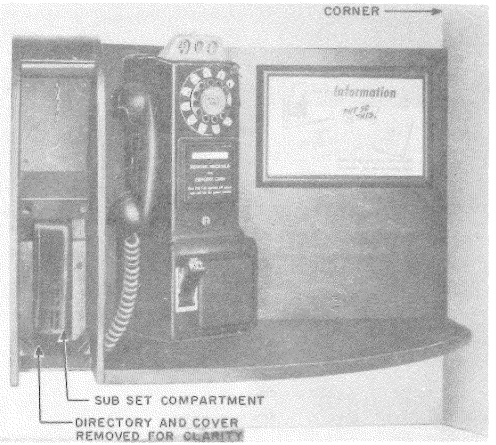

Fig. 2—Corner Mounted 19-Type Shelf

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2.03 When it is necessary to run station wire across top of shelf, use slot provided in backboard to bring wire down to entrance hole.

2.04 A metal-covered or network-type subscriber set is mounted underneath the shelf toward the rear. Place 684- or 531-type subscriber set in compartment at the rear of the directory compartment as shown in Fig. 1 and 2.

2.05 The lower compartment has a lift-out cover with buttonhole slots for the mounting screws and a finger hole to permit ready removal.

2.06 When terminating wires at the subscriber set, leave at least 18 inches of slack to permit removing the set for maintenance.

Backboards

2.07 USe the backboard furnished with the shelf to mount the shelf on wall surfaces. Refer to the section on backboards for information on mounting.

- Attach shelf to backboard with seven 1/4-20 by 1-1/2 inch FH machine screws furnished with the shelf.
- Attach coin collector with eight P-49C296 FH machine screws.

2.08 Place directory in binder and suspend binder from short piece of chain attached to eyebolt in the directory binder.

3.01 The 20-type shelf may be installed:

- Singly, Fig. 3.
- Side-to-side, Fig. 4.
- Three on an outside corner, Fig. 5.
- Four in a free-standing position, Fig. 6.
- In tandem, Fig. 7.

3.02 When installed in groups, the side partitions affords some degree of privacy.

3.03 The shelf is equipped with inside wire between the coin collector and subscriber set location. On the underside of the writing shelf is a hinged mounting plate to mount the subscriber set. When terminating wires at the subscriber set, leave sufficient slack in the wiring for maintenance.

Fastening Shelves

3.04 Each shelf is provided with:

- Three P-13C011 steel mounting brackets and screws for fastening to the wall.
- Three No. 125 cable nob staples for fastening shelves together when grouped.

Brackets are used on most installations; whereas staples must be used when shelves are grouped.

Note: Where appearance is a controlling factor, steel mounting brackets need ***not*** be used. Drill mounting holes below writing shelf and place fasteners of sufficient length at stud location or in solid wood backing.

3.05 When shelves are mounted:

- ***In a corner*** (Fig. 3), one bracket is used to fasten the top to the wall and two brackets for fastening the bottom.
- ***Side-to-side, outside corner, or free-standing arrangement,*** two staples are fastened at the top and one on the side; see Fig. 4.

It is recommended that lead hole be drilled in partition before securing staples. This will avoid chipping or splintering.

3.06 There may be locations where the shelf cannot be mounted flush to wall because of baseboard, etc. In these situations, a furring stip may be used to fill the gap between side partition and wall. (Strips are obtained locally and may be painted either the color of shelf or wall.) IF filler strip is required, attach to shelf.

3.07 Attach coin collector to backboard with eight P-49C296 FH machine screws.

4. MAINTENANCE

4.01 Clean the surfaces which are not badly scratched or marred with a mild detergent

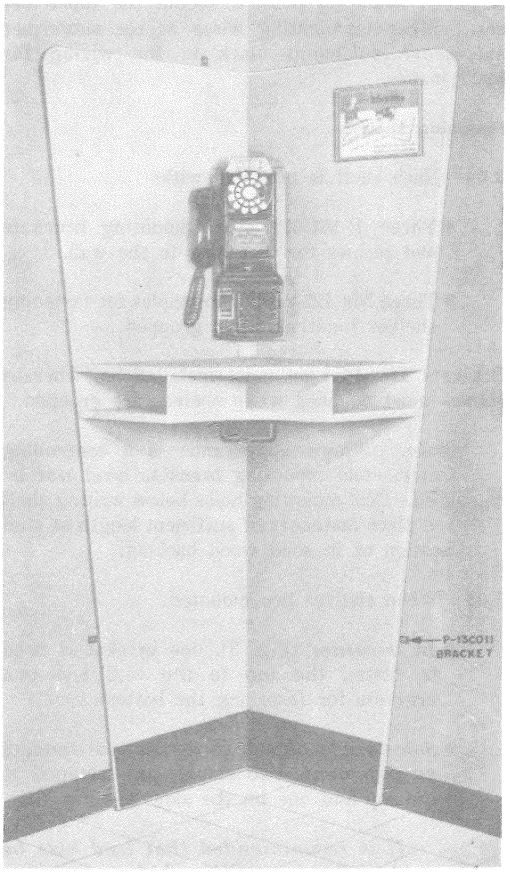

Fig. 3—Corner Mounted 20-Type Shelf

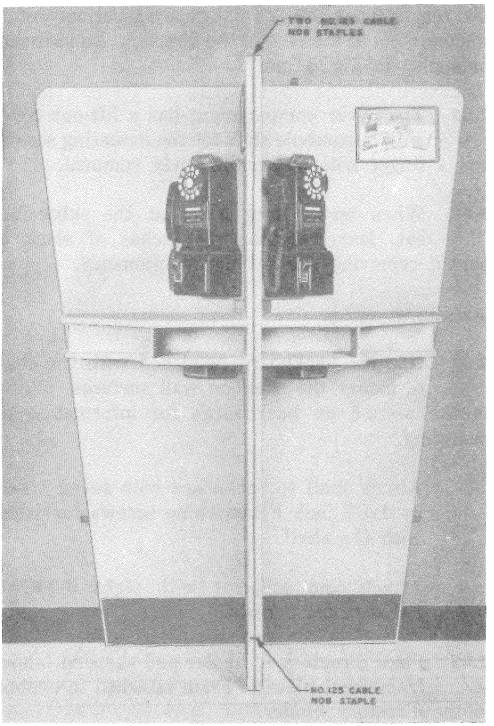

Fig. 4—Side-to-Side Mounted, 20-Type Shelves

and warm water. After drying, the surface of the 19-type shelf shall be polished with furniture polish or an approved equivalent.

4.02 When the condition of the 19-type shelf is such that cleaning would not be sufficient, the surface be sanded and finished.

4.03 Inspect security of mounting screws and brackets. Tighten loose screws; replace or relocate if tightening is not possible. Also inspect security of staples on the 20-type shelf and correct any defects.

4.04 The shelf should be free of loose dirt or other objectionable material.

4.05 Replace directories that show signs of excessive wear or damage.

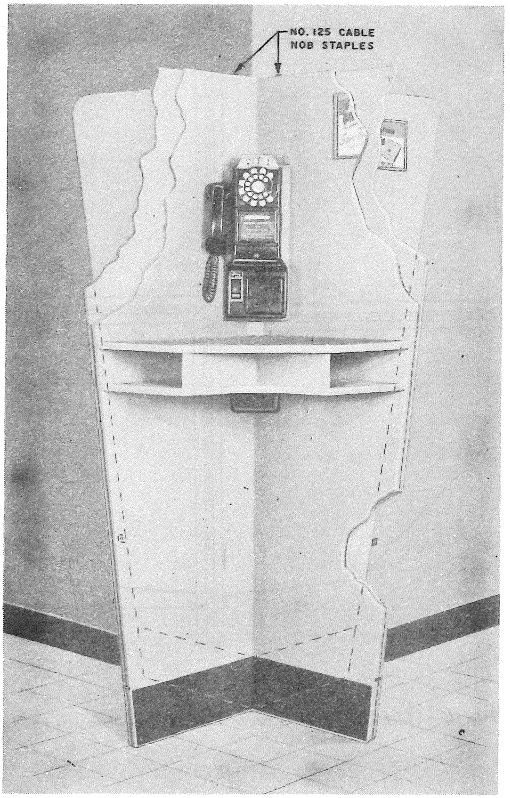

Fig. 5—Three 20-Type Shelves on Outside Corner

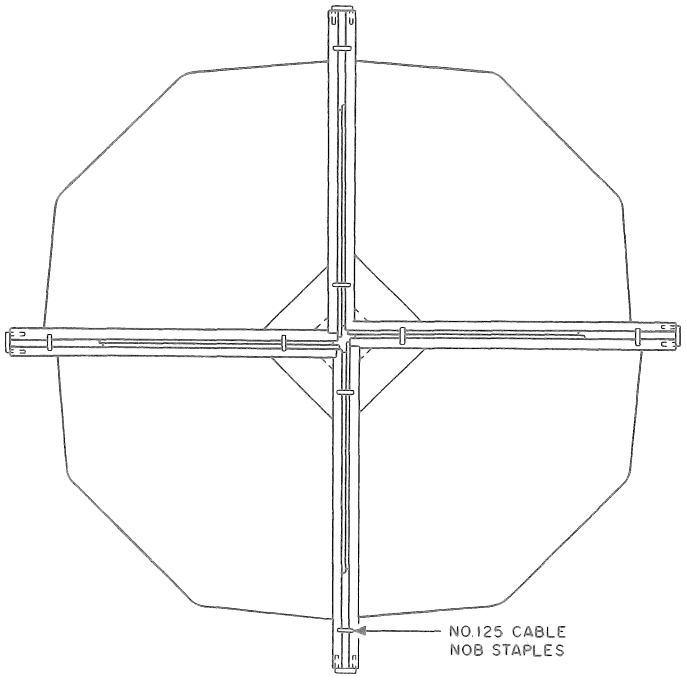

Fig. 6—Four 20-Type Shelves in A Free-Standing Position

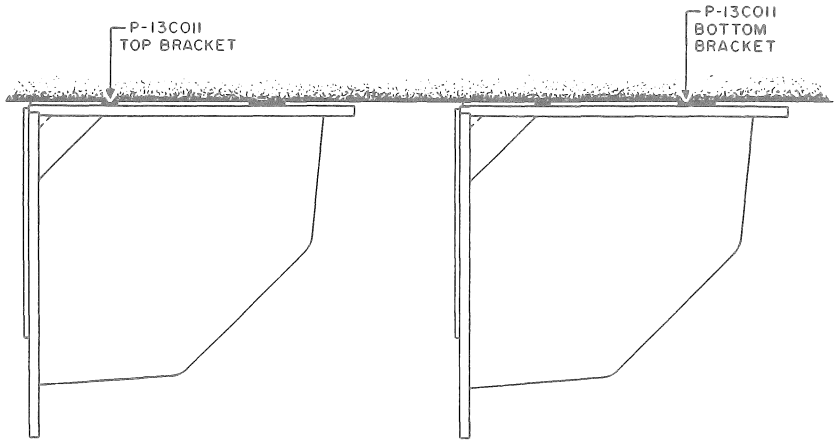

Fig. 7—20-Type Shelves in Tandem

COIN TELEPHONE SHELF
KS-19267
IDENTIFICATION, INSTALLATION, AND MAINTENANCE

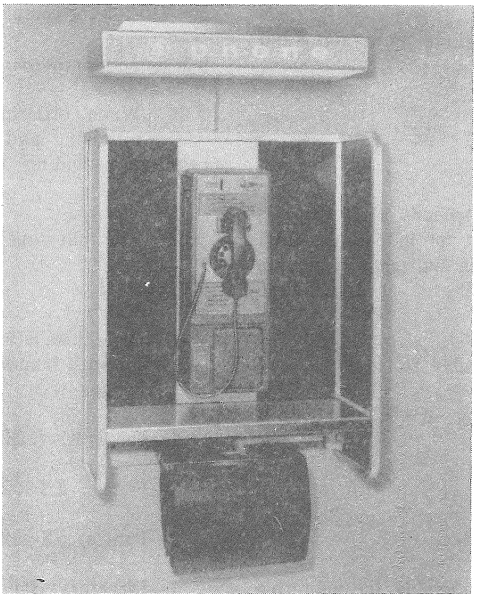

Fig. 1—Coin Telephone Shelf KS-19267 and Finishes Available

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1. GENERAL

1.01 This section is reissued to:

- Add information on new KS-19267, List 14 directory hanger mounting bracket
- Add information on new KS-19267, List 15 subset mounting bracket
- Add information on new KS-20030 directory hanger
- Revise Fig. 1 to include new sign and directory hanger.

2. IDENTIFICATION

2.01 The KS-19267 coin telephone shelf (Fig. 1) is a wall mounted unit for indoor use only. It may be installed singly or in multiple and mounts either the 200-type coin collector or 1A/1C-type coin telephone set.

2.02 The basic shelf assembly includes:

- B-196775 mounting plate for coin collector/telephone
- Metal frame assembly
- B-196771 writing shelf
- B-196770 backboard assembly for mounting the metal framework.

2.03 Overall dimensions of a single shelf are:

- Height—32 inches
- Width—25-1/2 inches
- Depth—12 inches.

2.04 The desired panels, directory rack, directory hanger, and other optional items are added to the basic shelf assembly as required. These are listed in Table A.

2.05 This shelf features replaceable back and side panels, which are available in a variety of colors and finishes (Fig. 1).

2.06 Illumination, if required, is furnished by a KS-19322 sign which must be ordered separately. It may be mounted directly to the wall surface above the coin telephone shelf or on the top edge of a KS-19267, List 10 auxiliary backboard if the sign and shelf are to be installed as one unit. Refer to Section 508-810-202 for complete information on the KS-19322 illuminated sign.

2.07 Telephone directories may be placed under the writing shelf in a rack (Fig. 2) or in a KS-20030 directory hanger (Fig. 1). Refer to Section 508-710-102 for complete information on the hanger.

Ordering Information

2.08 When ordering specify the quantity, KS number, and list number of each item required including those that must be ordered separately.

2.09 The following are examples of typical orders:

Example 1

1—Single installation for 1A/1C-type coin telephone set with fruitwood grain panels and directory hanger

1—Shelf, KS-19267, List 1

2—Panels, KS-19267, List 23

2—Panels, KS-19267, List 33

1—Directory Hanger, KS-20030, List 1

1—Mounting Bracket, KS-19267, List 14

Example 2

2—Single installation for 200-type coin collector with acoustic panels, directory rack, illuminated sign, and auxiliary backboard

1—Shelf, KS-19267, List 1

1—Panel, KS-19267, List 45

1—Panel, KS-19267, List 46

2—Panels, KS-19267, List 47

1—Rack, KS-19267, List 11

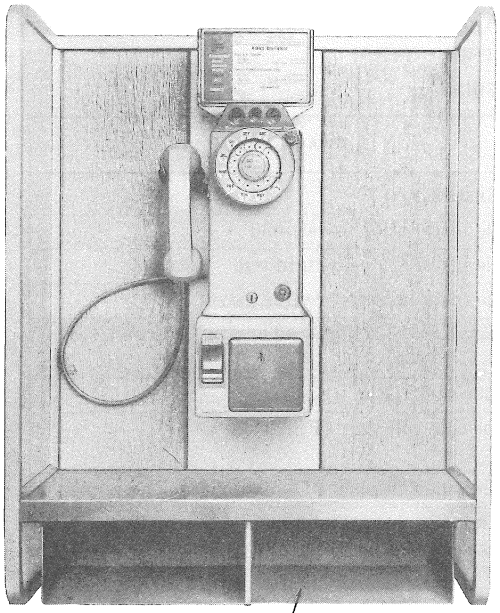

Fig. 2—KS-19267 Coin Telephone Shelf With KS-19267, List 11 Directory Rack

1—Mounting Bracket, KS-19267, List 12

1—Backboard, KS-19267, List 10

1—Sign, KS-19322, List 1

Example 3

3—Three shelves in a multiple installation, for 1A/1C-type coin telephone set, with blue panels, two directory hangers each, and one illuminated sign mounted directly to wall above shelves

1—Shelf, KS-19267, List 2

1—Shelf, KS-19267, List 3

1—Shelf, KS-19267, List 4

4—Panels, KS-19267, List 26

6—Panels, KS-19267, List 36

3—Directory Hangers, KS-20030, List 2

3—Mounting Brackets, KS-19267, List 14

1—Sign, KS-19322, List 1

3. INSTALLATION

3.01 Ensure that location specified on service order corresponds to customer's wishes. Also verify that the following conditions are met:

- Location is free of hazards
- Shelf will be easily accessible to the public
- Location will provide a secure mounting for shelf
- If lighted sign is to be installed, be sure 3-wire grounded outlet is provided
- Ground is present at receptacle.

The B-196770 backboard assembly can be installed directly on a wall if the surface permits. If a lighted sign is to be used, it is desirable to mount the shelf and light on a KS-19267, List 10 auxiliary backboard as one unit.

3.02 To install either the List 10 auxiliary backboard or the B-196770 backboard assembly on a wall, refer to Table A in Section 506-110-105 and observe the following:

Note 1: Holes are not provided in the backboards for surface mounting. The nine mounting holes in the B-196770 backboard are for securing it to the auxiliary backboard; however they may be utilized for surface mounting if wall permits.

Note 2: At least nine fasteners must be provided for securing the backboard to a wall and the wall studs, construction, and surface determines where the holes are drilled; however, when installing the auxiliary backboard, fasteners should be omitted from the area between top of shelf and bottom of lighted sign.

TABLE A

KS-19267 COIN TELEPHONE SHELF

ORDERING GUIDE

LIST NUMBER	DESCRIPTION	REMARKS	
1	Basic Shelf Assembly	For single installation	
2		For multiple installation — left end	
3		For multiple installation — right end	
4		For multiple installation — center	
10	Auxiliary Backboard	For mounting KS-19322 sign and shelf as one unit (See Section 506-110-105)	
11	Directory Rack	Mounts under shelf (Fig. 2)	
12	Mounting, Subscriber Set	For 200-type coin collector (Fig. 3)	
13	Cover Assembly	Mounts under shelf in place of directory rack (Fig. 4)	
14	Mounting Bracket	For mounting KS-20030, List 1 or List 2 directory hanger under shelf (Fig. 5)	
15		For mounting subset under shelf when KS-20030 directory hanger is used (Fig. 6)	
20	Panel, Side	Laminated	Birch grain
21			Walnut grain
22			Mahogany grain
23			Fruitwood grain
26		Porcelainized	Light blue
27			Medium gray
28			Dark gray
30	Panel, Back	Laminated	Birch grain
31			Walnut grain
32			Mahogany grain
33			Fruitwood grain
36		Porcelainized	Light blue
37			Medium gray
38			Dark gray
40	Panel, Side	Transparent	
41		Translucent	
45	Panel, Acoustic	Right side	
46		Left side	
47		Back	
48		Center	

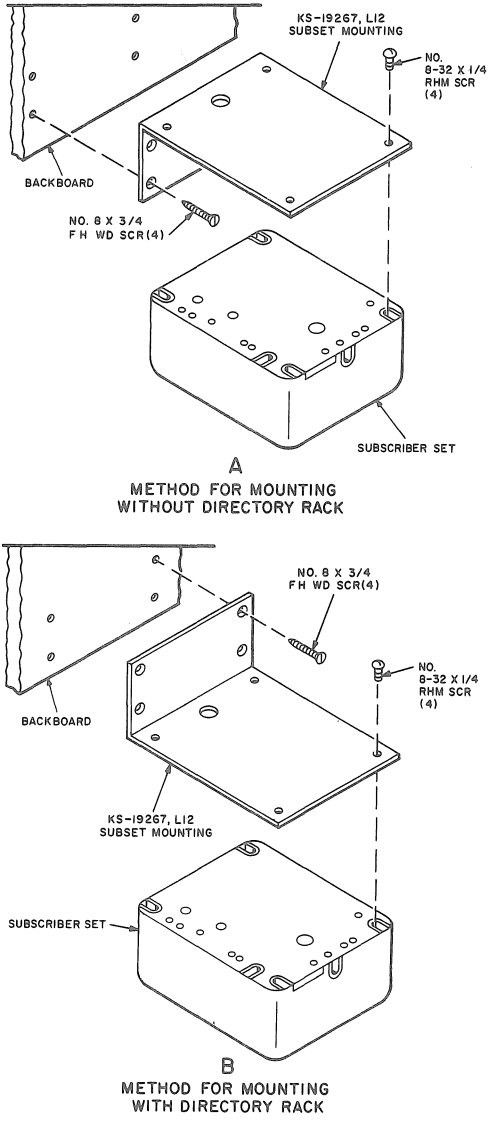

Fig. 3—KS-19267, List 12 Subscriber Set Mounting

Note 3: When providing mounting holes in the B-196770 backboard, countersink the nine holes to ensure that screw heads will be underflush when installed, otherwise there may not be sufficient clearance to slide the rear shelf panel up in place.

Note 4: Locate backboard(s) with bottom edge 35-1/4 inches from floor. In multiple installations, backboards shall be 24-3/4 inches from center to center.

3.03 Secure B-196770 backboard assembly to List 10 auxiliary backboard, if applicable, using nine 1/4-20 by 1-1/2 FHM screws (Fig. 7).

3.04 Install KS-19322 sign if applicable and cover exposed electric power cord between sign and shelf with KS-19322, List 16 wire shield (Fig. 7).

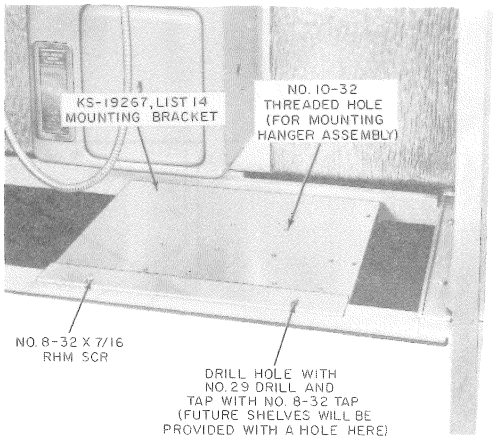

Fig. 5—KS-19267, List 14 Mounting Bracket Installed

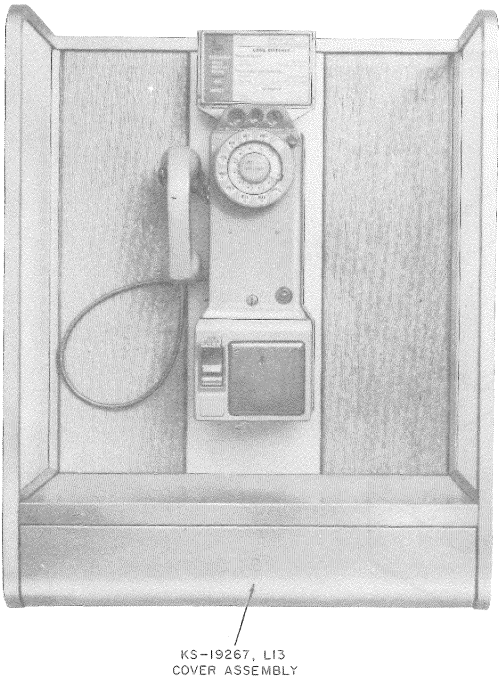

Fig. 4—KS-19267 Coin Telephone Shelf With KS-19267, List 13 Cover Assembly

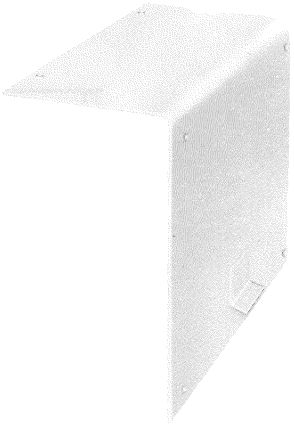

Fig. 6—KS-19267, List 15 Subset Mounting Bracket

3.05 Install telephone wiring.

3.06 Install B-196762-1 and -2 side columns on backboard using two No. 10-32 by 9/16 FHM screws in each column.

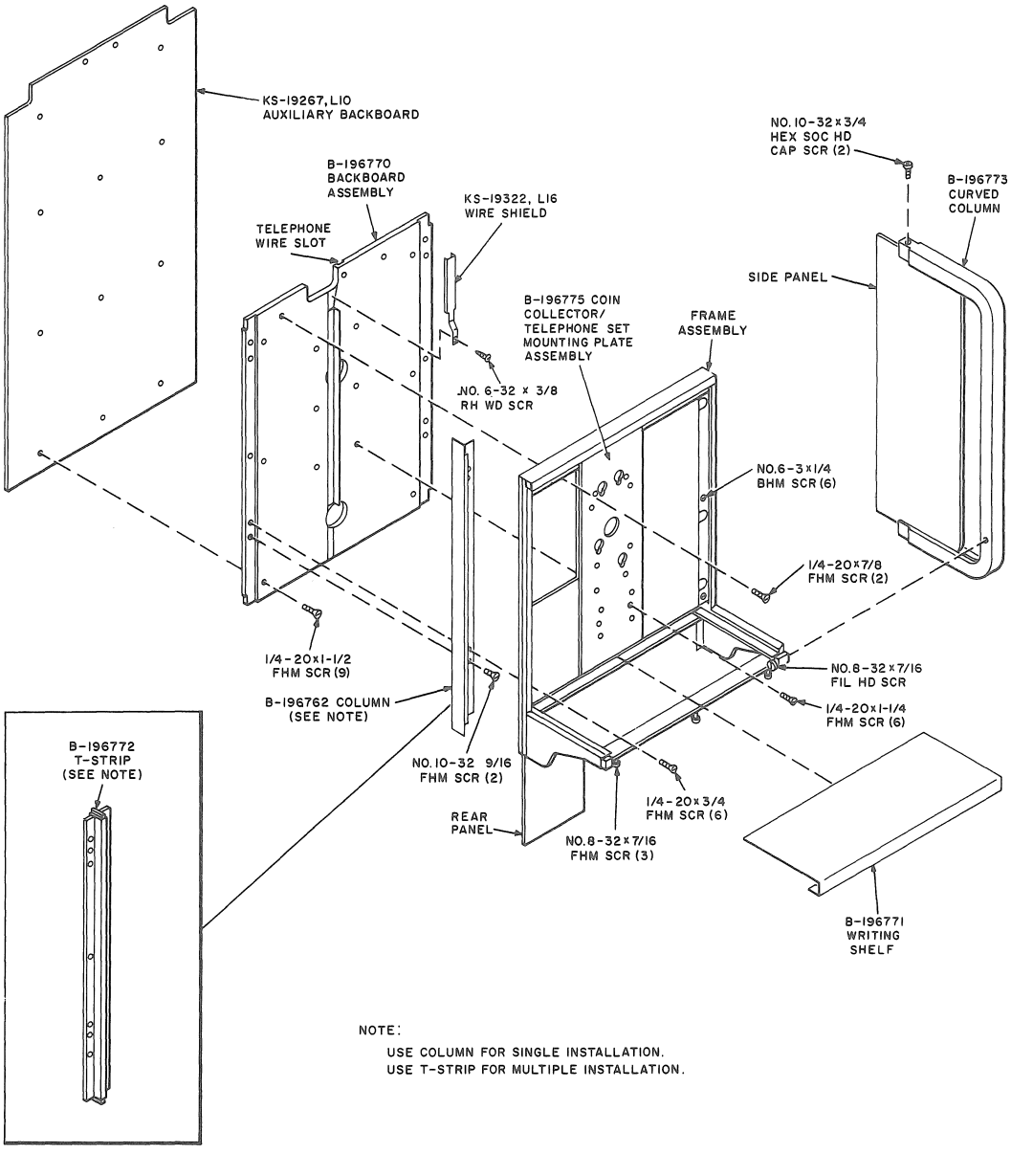

Fig. 7—Assembly of KS-19267 Shelf

Where multiple units are installed, a B-196772 T-strip will be used to join two shelves together. This T-strip will replace the side column. T-strips are furnished as part of KS-19267, List 2 and List 4 shelf assemblies (Fig. 7).

3.07 Place frame assembly against backboard so that side rails fit into side columns or T-strips, and top cross rail rests partially on top edge of backboard.

3.08 Secure frame assembly to backboard using two 1/4-20 by 7/8 FHM screws and six 1/4-20 by 3/4 FHM screws.

3.09 Secure coin collector/telephone mounting plate to backboard assembly using six 1/4-20 by 1-1/4 FHM screws.

3.10 Insert side panels into curved columns. Place curved columns into slots on top and bottom edge of shelf assembly and secure with No. 10-32 by 3/4 hex socket head cap screws.

3.11 Further secure curved columns at front of shelf using No. 8-32 by 7/16 fillister head screws.

3.12 Loosen the No. 6-32 by 1/4 binding head screws in rails adjacent to side panels. Force rails tight against panels and tighten screws. This will prevent panels from rattling.

3.13 If a KS-20030, List 1 or List 2 directory hanger is used, install mounting plate at this time per Section 508-710-102.

3.14 Insert B-196771 writing shelf in slots provided and slide toward backboard until almost seated.

3.15 Refer to Note 3 in 3.02, insert back panels as shown, and slide them all the way to the top. Slide writing shelf all the way in and release back panels so that they rest on top of back edge of writing shelf.

3.16 If no KS-19267, List 11 directory rack nor KS-19267, List 13 cover assembly is used, secure writing shelf to frame assembly using three No. 8-32 by 7/16 fillister head screws.

3.17 If a subscriber set is required, mount under the writing shelf as shown in Fig. 3 using a KS-19267, List 12 mounting bracket, or per Section 508-710-102 using a KS-19267, List 15 mounting bracket if a KS-20030 directory hanger is used.

3.18 Install KS-19267, List 11 directory rack per Fig. 8.

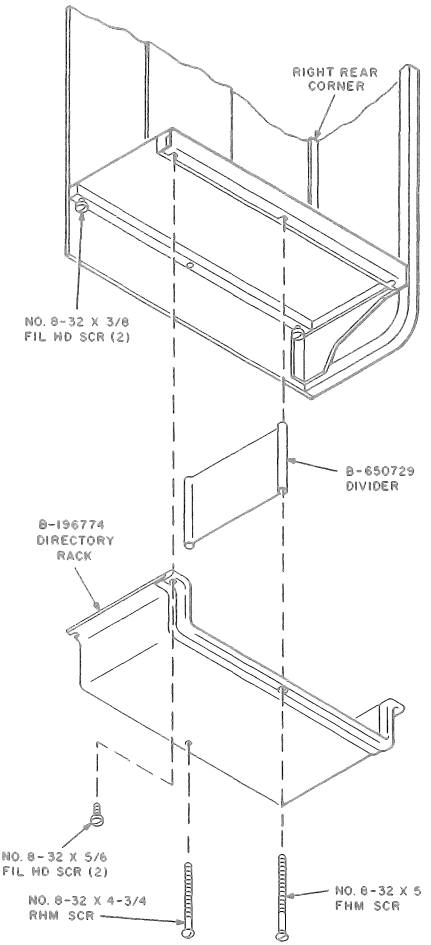
RIGHT REAR CORNER
NO. 8-32 X 3/8 FIL HD SCR (2)
B-650729 DIVIDER
B-196774 DIRECTORY RACK
NO. 8-32 X 5/8 FIL HD SCR (2)
NO. 8-32 X 4-3/4 RHM SCR
NO. 8-32 X 5 FHM SCR

Fig. 8—Installation of KS-19267, List 11 Directory Rack

3.19 Install KS-19267, List 13 cover assembly per Fig. 9.

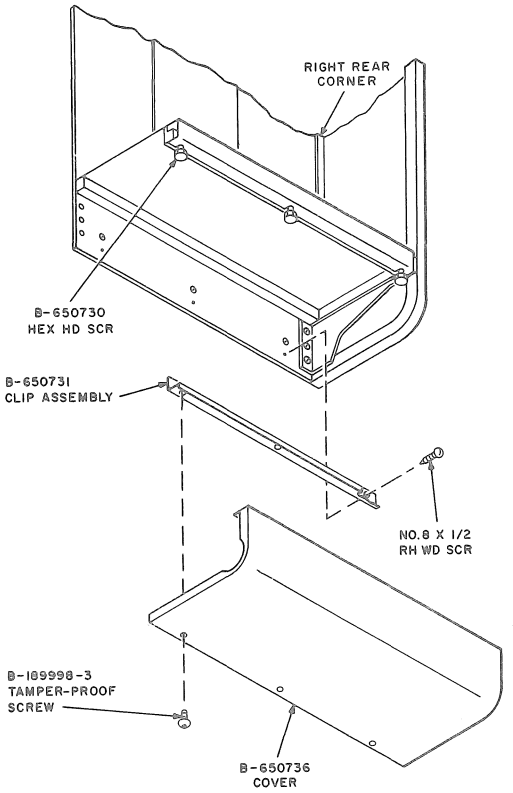

Fig. 9—Installation of KS-19267, List 13 Cover Assembly

3.20 To add additional shelves to existing installations:

(a) Remove List 11 directory rack or List 13 cover assembly if applicable.

(b) Remove the following per Fig. 7:

- Writing Shelf
- Curved Column
- Side Panel
- Rear Panel.

(c) Remove the following per Fig. 10:

- B-196769 Rail
- B-196765 Strip
- B-196762 Column.

(d) Install B-196772 T-strip where B-196762 column was removed.

(e) Install B-196765 strip in its original position.

(f) Reassemble all parts in reverse order as outlined in (a) through (c) except omit the B-196762 column.

(g) Perform operations outlined in 3.02 through 3.19 for each additional shelf installed.

Ensure that the curved column, which is common between two shelves, has a hole on each side at writing shelf level.

4. MAINTENANCE

4.01 The local telephone company shall establish the appearance standards of all exposed surfaces.

4.02 The local telephone company shall establish the safety standards for all coin telephone shelves.

4.03 Inspect the approach to the shelf and ensure that it is free of all hazards.

4.04 Ensure that all visible assembly screws are secure.

4.05 Clean shelf in accordance with Section 770-170-308.

4.06 Refer to Fig. 7, 8, and 9 and Tables A and B for replacement parts.

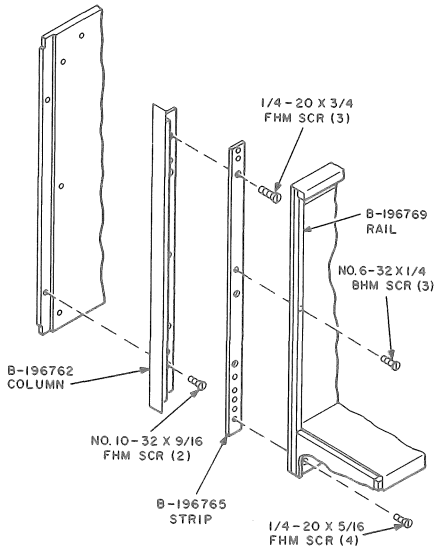

Fig. 10—Partial View of Shelf Assembly

TABLE B

MISCELLANEOUS REPLACEMENT PARTS

NAME	PART NUMBER	DESCRIPTION
T-Strip	B-196772	Used in place of columns to convert single installations to multiple
Curved Column	B-196763-1	Center (multiple installations)
Curved Column	B-196763-2	Right side
Curved Column	B-196763-3	Left side
Column	B-196762-1	Right side
Column	B-196762-2	Left side

BOOTH—UNIVERSAL
(INDOOR-OUTDOOR) KS-16797
IDENTIFICATION AND INSTALLATION

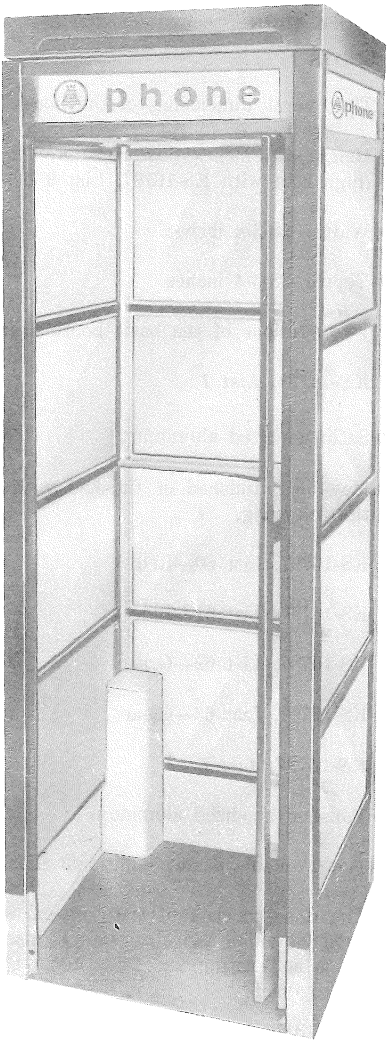

Fig. 1—KS-16797, List 1 Booth

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1. GENERAL

1.01 This section is reissued to:

- Make text, illustrations, and tables compatible with latest issue of specification KS-16797.
- Change part numbers from KS-16797 to KS-19425 and KS-19580 where parts are common to both booths.
- Change title
- Include information formerly contained in Section 508-230-200 which is hereby canceled.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.02 The KS-16797 booth (Fig. 1) is a compact aluminum and glass telephone booth suitable for indoor or outdoor use in single or multiple installations. It is equipped with an aluminum alloy floor.

1.03 This booth is designed primarily for standup service; however, a KS-19425, List 11 seat assembly can be used if desired.

2. IDENTIFICATION

BASIC BOOTH

2.01 The overall dimensions of the booth are:

- Height—86 inches (low roof) 87-1/2 inches (high roof with KS-16797, List 9 blower)
- Width—28-3/4 inches
- Depth—28-3/4 inches

2.02 Two versions of the basic booth are:

(a) *KS-16797, List 1*

- Satin anodized aluminum
- May be unfinished or finished with one of the following:

  KS-16797, List 60—Red

  KS-16797, List 61—Blue

  KS-16797, List 62—Green

  KS-16797, List 63—Clear

(b) *KS-16797, List 6*

- Polished anodized aluminum
- Not available in any additional finish

2.03 The door consists of two vertical sections, each containing two clear safety glass panels. The door is self-closing and folds along the right wall when opened.

DOOR, SIDE, AND REAR PANELS

2.04 Door, side, and rear panels are available as described in Table A.

SIGN PANELS

2.05 Sign panels and blanks are available as described in Table B.

BOTTOM PANELS

2.06 Bottom panels are available as described in Table C.

LIGHT FIXTURE

2.07 The booth and phone signs are illuminated by a KS-19207, List 6 light fixture (see Section 508-820-100). This light fixture replaces the older B-185379 light fixture assembly.

2.08 The ceiling is equipped with a B-185369 plastic dome designed to cover the light fixture and exclude dirt and insects.

DOME STOP

2.09 A KS-20224 dome stop (Fig. 2), a spring loaded device, is available to mount along the door track (Fig. 3) to prevent the dome from falling when the fasteners are released.

2.10 To lower the dome, push up on dome stop as shown in Fig. 4. After dome is lowered, release the stop.

LIGHT CONTROL UNIT

2.11 A KS-19261, List 1 or List 2 light control unit may be used to switch the lamps on at darkness and off at daylight (see Section 508-825-100).

- KS-19261, List 1 provides automatic light control for booths equipped with KS-19207, List 6 light fixture.
- KS-19261, List 2 provides automatic light control for booths equipped with B-185379 light fixture assembly.

One KS-19261 light control unit may be used to control the lights in multiple installations of five or less booths.

TABLE A

DOOR, SIDE AND REAR PANELS, AND GLAZING STRIPS

SPEC NO.	LIST NO.	DESCRIPTION		LOCATION	GLAZING STRIP
KS-14611	16	Satin Finished Aluminum (List 1 Booth only)		Side or Rear	B-685410-3
	18	Tempered Glass	7/32-in. thk	Door	B-179367-4
	75		1/4-in. thk		
KS-19580	10		7/32-in. thk	Side or Rear	B-685410-3
	11		1/4-in. thk		
	32	Polished Aluminum (List 6 Booth only)			
	93	Porcelain Enamel	Blue		B-685411-3
	94		Gray		
	95		Red		

TABLE B

SIGN PANELS AND GLAZING STRIPS

SPEC NO.	LIST NO.	DESCRIPTION		LOCATION	GLAZING STRIP
		LETTERS	BACKGROUND		
KS-14611	101	White	Blue	Front	B-179367-1
	102	Blue	White		
	105	None	White		
	106	None	Blue		
	103	White	Blue	Rear and Sides	B-179367-2
	104	Blue	White		
	107	None	White		
	108	None	Blue		
	35	Solid Aluminum Blank			

TABLE C

BOTTOM PANELS

SPEC NO.	LIST NO.	DESCRIPTION	REMARKS	
KS-14611	53	Side or Rear	Solid	For use in List 1 booth
	55		Short	
KS-19580	38		Short	For use in List 6 booth
	40		Solid	

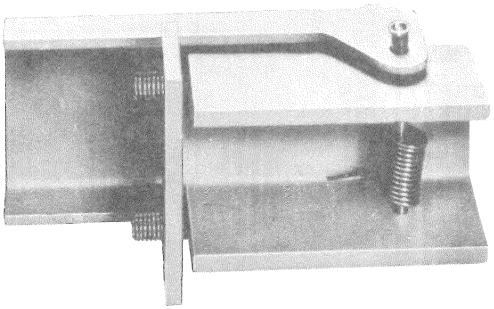


Fig. 2—KS-20224 Dome Stop

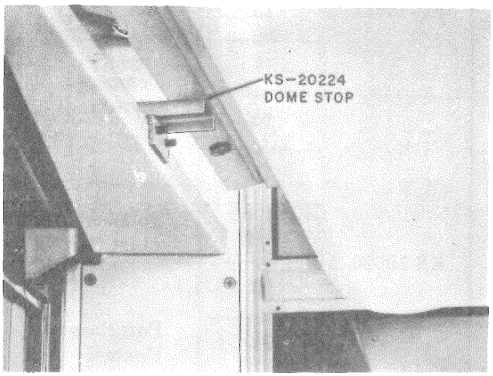


Fig. 3—KS-20224 Dome Stop, Installed

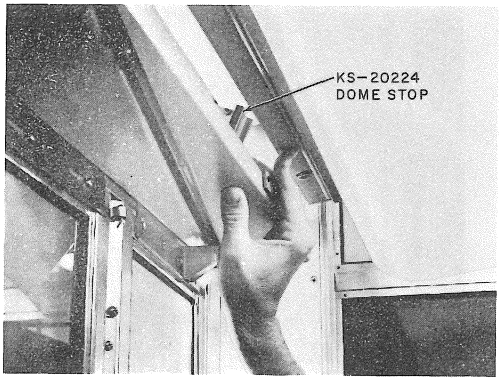


Fig. 4—Releasing Dome Stop

SHELF AND DIRECTORY ARRANGEMENTS

2.12 Shelf assemblies, directory racks, and associated apparatus are listed in Table D and shown in Fig. 5 through 7.

SEAT

2.13 A KS-19425, List 11 seat assembly (Fig. 5) may be used if desired.

2.14 A KS-19425, List 12 mounting plate (Fig. 5) must be used for mounting the seat.

JUNCTION BOX

2.15 The KS-16797, List 21 (for List 1 booth) or List 121 (for List 6 booth) junction box kit (Fig. 8) can be installed in the bottom left rear corner of the booth. It is used for underground or ground level power and telephone wire entrances. The kit includes two power leads and a divided rectangular conduit for enclosing wire from junction box to ceiling.

2.16 A double-pole single throw circuit breaker may be installed in the junction box if required. The circuit breaker must be ordered separately from Heinemann Electric Co., No. 2912, 10 amp, 120 volts ac, time delay curve –3.

2.17 Facilities are provided for mounting a 123A1A telephone protector in the junction box.

BLOWER

2.18 Booth ventilation is provided by use of a KS-16797, List 9 blower assembly (Fig. 9). The assembly includes an interlock switch mounted in the door track to control the operation of the blower when opening and closing the booth door. A customer-controlled switch is also part of the

TABLE D

SHELF ASSEMBLIES, DIRECTORY RACKS, AND ASSOCIATED APPARATUS

SPEC NO.	LIST NO.	DESCRIPTION	REMARKS
KS-19425	11	Seat Assembly (Fig. 5)	
	12	Mounting Plate (Fig. 5)	For mounting seat assembly
	13	Directory Shelf (Fig. 5)	Externally mounted for indoor use. Makes provisions for mounting the KS-6472 and KS-6538 directory fasteners
	14	Mounting Plate (Fig. 5)	For mounting KS-19425, L13 directory shelf
	16	Directory Rack (Fig. 6)	For mounting directory in left-rear corner. Large enough to accommodate one 3-inch binder
	26	Shelf Assembly (Fig. 6)	For use with List 16 directory rack
	27	Shelf Assembly (Fig. 7)	Writing Shelf
KS-20030	3	Directory Hanger (Fig. 7)	For single binder

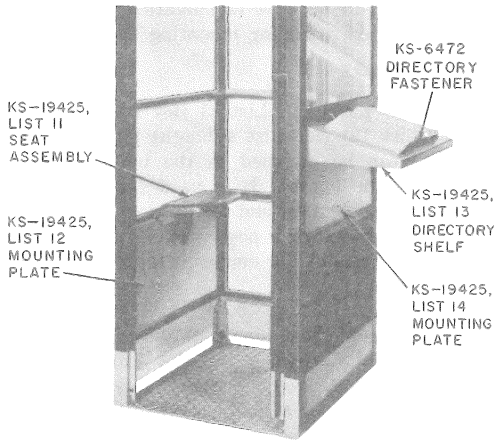


Fig. 5—KS-19425, List 11 Seat Assembly, KS-19425, List 13 Director Shelf, and Associated Mounting Plates

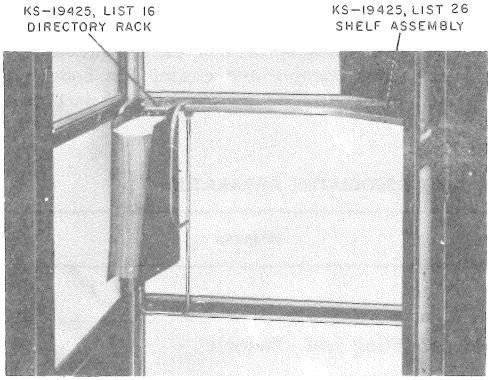


Fig. 6—KS-19425, List 16 Directory Rack and KS-19425, List 26 Shelf Assembly

List 9 blower assembly; this switch is mounted on the right column behind the booth door.

2.19 KS-16797 booths are supplied with the low profile roof (1-1/2 inches lower than the higher type) as the standard roof. However, when booths are equipped with the List 9 blower, the higher type roof is required.

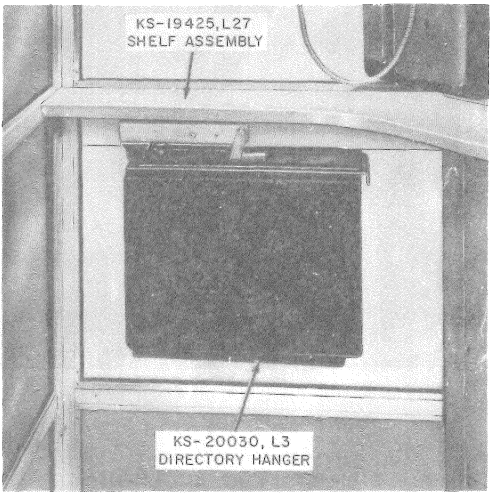


Fig. 7—KS-19425, List 27 Shelf Assembly With KS-20030, List 3 Directory Hanger

POWER CORD ASSEMBLIES

2.20 Three power cords are available.

(a) ***KS-19425, List 22 (Fig. 10)***

- Used to bring overhead power into an ***indoor*** booth.
- Used to interconnect power to adjacent booths in multiple installations ***which do not have blowers.***

(b) ***KS-19580, List 30 power cord assembly (Fig. 11)***

- Used to bring overhead power into an ***outdoor*** booth.

(c) ***KS-16797, List 14 cable assembly (Fig. 12).***

- Used to interconnect power to adjacent booths in multiple installations which are equipped with blowers.

FOUNDATION TEMPLATE

2.21 A KS-16797, List 7 foundation template (Fig. 13) is used to facilitate mounting of booth on a concrete foundation.

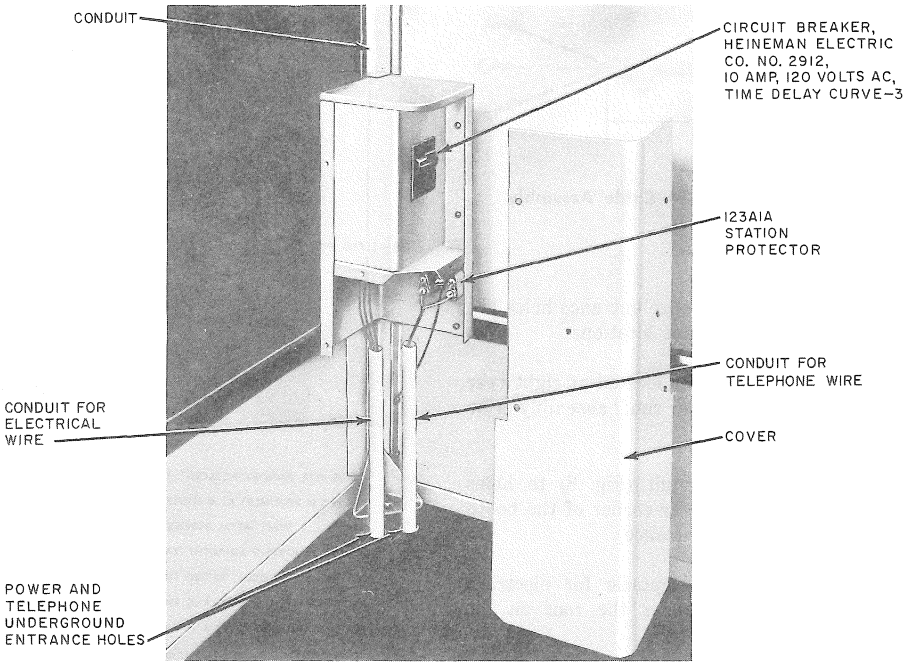

CONDUIT
CIRCUIT BREAKER, HEINEMAN ELECTRIC CO. NO. 2912, 10 AMP, 120 VOLTS AC, TIME DELAY CURVE-3
123AIA STATION PROTECTOR
CONDUIT FOR TELEPHONE WIRE
COVER
CONDUIT FOR ELECTRICAL WIRE
POWER AND TELEPHONE UNDERGROUND ENTRANCE HOLES

Fig. 8—Circuit Breaker and Associated Apparatus

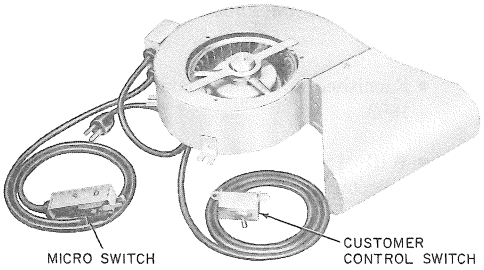


Fig. 9—KS-16797, List 9 Blower Assembly

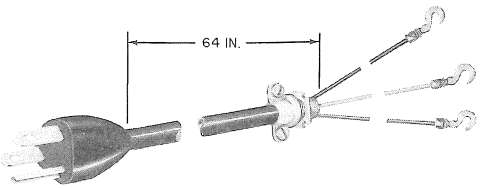


Fig. 10—KS-19425, List 22 Cable Assembly

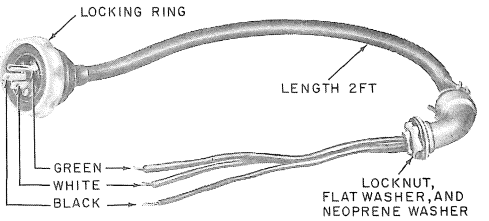


Fig. 11—KS-19580, List 30 Power Cord Assembly

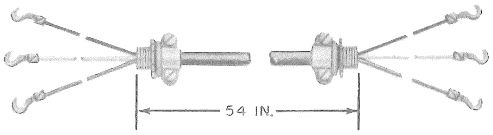


Fig. 12—KS-16797, List 14 Cable Assembly

WIRING

2.22 Power and telephone wire entrance holes are located in two different locations:

(a) Through entrance holes located at right rear or right side of the roof assembly (for overhead entrance).

(b) Through metallic conduit (Fig. 8) to holes provided in the left rear corner of the booth floor (for underground entrance).

2.23 A 115-volt duplex receptacle for electrical wiring is provided under the roof on the ceiling assembly.

2.24 Electrical protection (for telephone line) is provided by a 123A1A protector. The protector is installed either under the roof on the ceiling for overhead telephone wire entrances, or in the junction box for underground entrances. Booths requiring no protection can be equipped with a 42A connecting block.

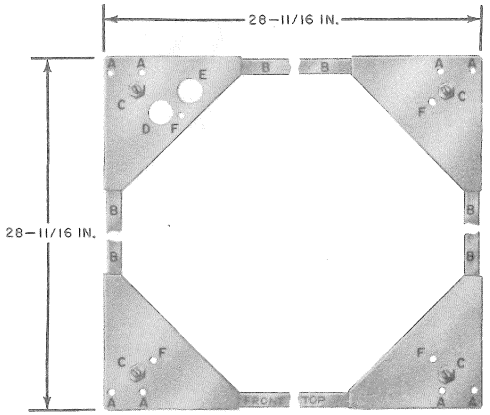
2.25 This booth is furnished wired for subscriber set and for coin collector/telephone connections.

BACKBOARDS

2.26 Two different backboards have been used in this booth.

(a) *B-190387-1 backboard (Fig. 14)*

- Furnished in booths manufactured prior to July 1963.
- Will accept 200-type coin collector/telephone but will not accept 1A-type coin telephone.



A— HOLES FOR JOINING ADJACENT TEMPLATES (WHERE SEPARATION BETWEEN BOOTHS IS REQUIRED) AT MULTIPLE BOOTH INSTALLATIONS. USE STEEL STRAP AND NO. 8 SHEET METAL SCREWS.

B— HOLES FOR JOINING ADJACENT TEMPLATES (WHERE NO SEPARATION BETWEEN BOOTHS IS REQUIRED). FASTEN TOGETHER WITH TWO NO. 10 (.190)-32-x1/2 INCH RHM STEEL SCREWS AND TWO NO. 10-32 HEX NUTS.

C— BOOTH MOUNTING INSERTS.

D— POWER INLET.

E— TELEPHONE INLET.

F— NAIL HOLES FOR ATTACHING WOOD POSITIONING BLOCKS.

Fig. 13—KS-16797, List 7 Template

(b) *B-190387-2 backboard (Fig. 15)*

- Furnished in booths manufactured after July 1963.
- Will accept either the 200-type coin collector/telephone or 1A-type coin telephone.
- Requires two B-650326 filler blocks for securing backboard to cross rails.

Note: If the B-190387-1 backboard is replaced by a B-190387-2 backboard, filler blocks must be ordered separately.

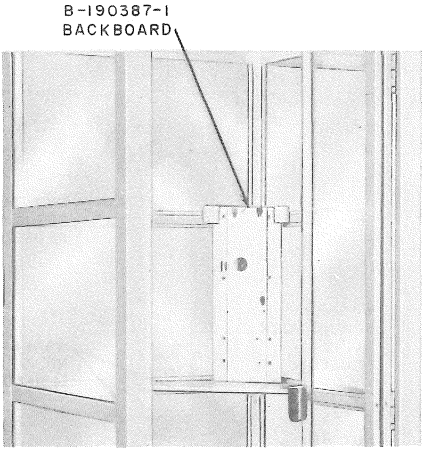


Fig. 14—KS-16797 Booth With B-190387-1 Backboard Installed

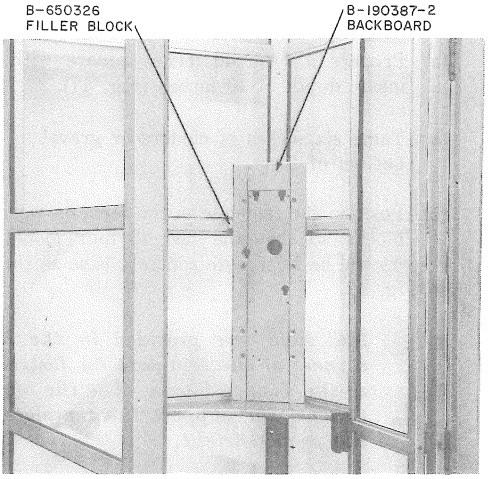


Fig. 15—KS-16797 Booth With B-190387-2 Backboard Installed

MULTIPLE INSTALLATION KIT

2.27 A KS-16797, List 11 multiple kit (Fig. 16) is available for side-by-side or back-to-back assemblies. It consists of the following:

- Two KS-16797, List 12 sign blanks
- Four KS-19425, List 18 frames
- Two KS-14611, List 53 bottom panels (for List 1 booth)
- Two KS-19580, List 40 bottom panels (for List 6 booth).

3. INSTALLATION

3.01 Booth location should be:

- Within full view of public
- Readily accessible to customer
- Free of such hazards as broken or uneven pavements
- Spaced with a minimum clearance of 6 inches from property lines and buildings
- Placed with as little step-up as possible but still maintaining proper drainage
- Protected by bumper guards (outdoor only).

3.02 KS-16797 booth requires anchoring at all outdoor installations. Anchoring at indoor locations is desired; however, this may not be possible in some instances.

3.03 For proper operation of the coin collector/telephone the surface upon which the booth is installed must be smooth and level. At indoor locations, shims may be placed under the floor to correct minor differences. A concrete

base can be provided at outdoor locations. Use a level to check that booth is plumb.

FOUNDATION TEMPLATE

3.04 When necessary to provide a concrete base, a KS-16797, List 7 foundation template (Fig. 13) is used. Install the template as follows:

(a) Prepare a form 40 inches square with an inside depth of 10 inches (Fig. 17).

(b) Tamp six inches of cinders or gravel in the bottom of form.

(c) Position the template in the form on wooden blocks so that the top of four mounting inserts will be flush with concrete base as shown in Fig. 17.

Nail holes are provided in the four corners of the template for fastening to the wooden blocks. Use the blocks to level and support the template at the proper height.

(d) If underground power and telephone wires are to be used, provide for holes in the concrete base at the positions of corresponding holes in the template.

Do not remove screw plugs from booth mounting inserts until booth is installed. Their purpose is to prevent dirt from filling mounting holes.

(e) Pour concrete around the template to fill the form.

(f) For multiple booth installations, where no separation between booths is required, fasten adjacent templates together with two No. 10-32 by 1/2 RHM screws and two No. 10-32 hex nuts.

(g) For multiple booth installations, where separation of booths is required, fasten adjacent templates together with steel straps and No. 8 sheet metal screws.

SECURING BOOTH TO MOUNTING SURFACE

3.05 If a KS-16797, List 7 foundation template is used, remove insert plugs from template and secure anchoring brackets (Fig. 18) to template

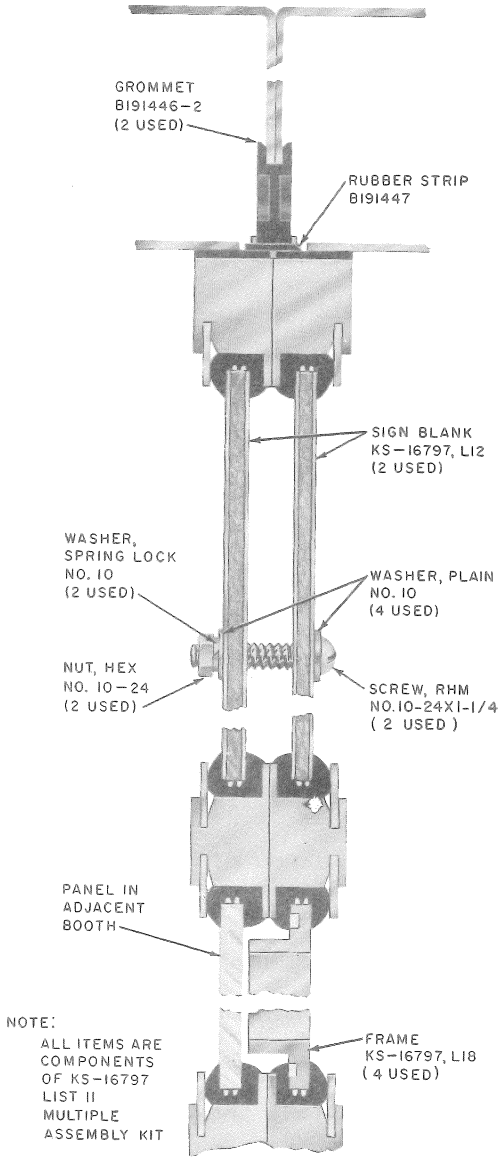


Fig. 16—KS-16797, List 11 Multiple Kit

using four 3/8-16 by 1-1/4 hex head bolts, four 3/8-inch lockwashers, and four 3/8-inch flatwashers.

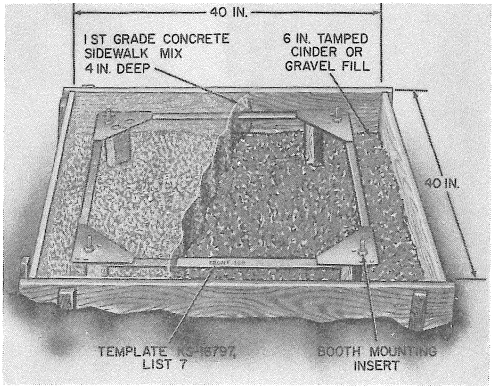

40 IN.
1 ST GRADE CONCRETE SIDEWALK MIX 4 IN. DEEP
6 IN. TAMPED CINDER OR GRAVEL FILL
40 IN.
TEMPLATE KS-16797, LIST 7
BOOTH MOUNTING INSERT

Fig. 17—Concrete Base Preparation With KS-16797, List 7 Template

3.06 If a KS-16797 List 7 foundation template is not used, and the booth is to be mounted on concrete, perform the following operations:

(1) Mark the locations for four mounting holes.

(2) Drill the four holes to accept masonry fasteners for 3/8-16 by 1-1/4 bolts.

(3) Install the masonry fasteners. See section on masonry fasteners.

(4) Secure anchoring brackets of booth to masonry fasteners using four 3/8-16 by 1-1/4 hex head bolts, four 3/8-inch lockwashers and four 3/8-inch flatwashers.

3.07 If booth is to be mounted on a wooden floor, perform the following operations:

(1) Mark the location for four mounting holes.

(2) Drill four lead holes to accommodate 5/16 by 2-1/2 inch lag screws.

(3) Secure booth to floor using four 5/16 by 2-1/2 inch lag screws, four 5/16-inch lockwashers, and four 5/16-inch flatwashers.

DOOR REQUIREMENTS

3.08 After anchoring and leveling booth, check door for the following:

(a) At outdoor locations, the door is usually adjusted to remain open 2 to 3 inches when the booth is not being used. If desired, this adjustment can be changed so the door will remain closed.

(b) At indoor locations, the hinge spring is not engaged and the normal door position is fully open when the booth is not being used.

(c) When pushed closed from inside, the door should remain completely closed. A slight pull on the handle should open the door and restore it to its normal open position.

(d) See Section 508-230-300 for door adjustments.

TELEPHONE WIRING

Aerial wire spans fastened to booth should not exceed 25 feet.

First Attachment

3.09 At outdoor locations, attach drop wire hook or corner bracket on the right rear or right side column directly below the wire entrance hole as follows:

Drop Wire Hook (Fig. 19)

(1) Drill 11/32-inch hole 2 inches below top of column and 1 inch from outside corner.

(2) Attach drop wire hook with 5/16 by 2-inch stove bolt, 3/8-inch corrosion resistant washers and 5/16 hex nut.

Corner Bracket (Fig. 20)

(1) Drill 11/32-inch hole two inches below top of column and 1 inch from outside corner. Use corner bracket to determine exact location and drill second hole.

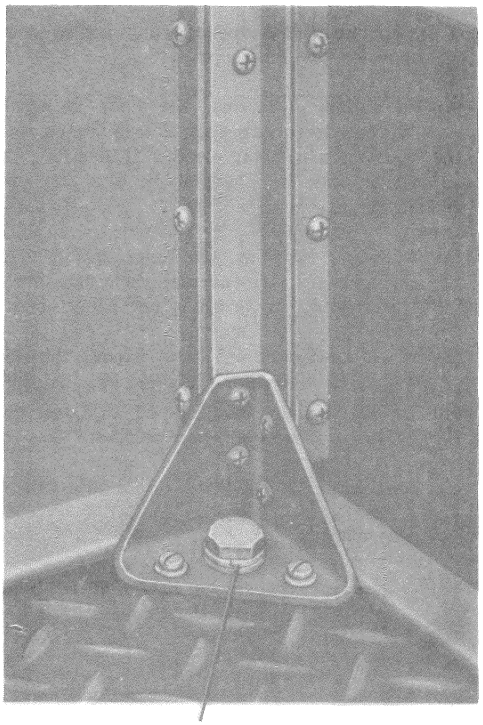


Fig. 18—Anchoring Bracket

(2) Attach corner bracket with two 5/16 by 2-inch stove bolts, two 3/8-inch corrosion resistant washers, and two 5/16 hex nuts.

Drop Wire Connection

3.10 Insert drop wire through entrance hole and terminate on 123A1A station protector or 42A connecting block (whichever is required).

3.11 The 123A1A station protector or 42A connecting block is located under the roof

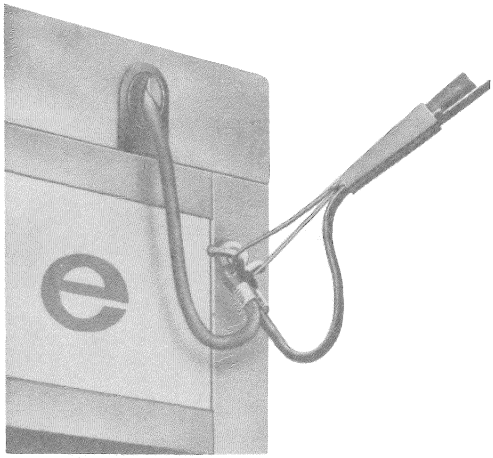


Fig. 19—Drop Wire Hook for First Attachment

on the ceiling assembly for overhead wire entrances. For underground entrance, mounting holes have been provided in the List 21 or List 121 junction box for mounting the 123A1A station protector.

Station Connections

3.12 Station connection wires are furnished as shown in Fig. 21. Complete connections for the specific coin collector/telephone and subscriber set used are covered in sections entitled Coin Collectors, Connections, and sections entitled Subscriber Sets, Connections.

ELECTRICAL WIRING AND GROUNDING

3.13 Electrical grounding of the booth is covered in Section 508-100-100.

Wiring

3.14 Bring overhead power into an indoor booth with a KS-19425, List 22 cable assembly (Fig. 10).

3.15 Bring overhead power into an outdoor booth with a KS-19580, List 30 power cord assembly (Fig. 22).

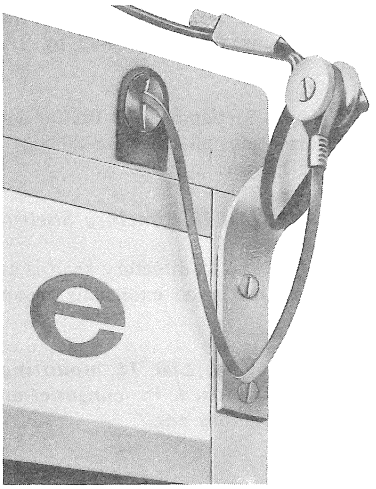


Fig. 20—Corner Bracket for First Attachment

3.16 Interconnect power between adjacent booths in multiple installations with a KS-16797, List 14 cable assembly (Fig. 12).

3.17 Refer to Fig. 23 for optional methods of electrical wiring.

Grounding

3.18 Ensure that the ground terminal of the station protector is connected to the booth with bonding wire provided. If a bonding wire is not present, use an approved No. 14 gauge wire.

3.19 In multiple installations, bond the booths together for grounding purposes.

DIRECTORY RACK AND SHELF ARRANGEMENTS

3.20 There are two shelf assemblies, a directory rack, a directory hanger and a directory shelf available for the booth. Install, when required, as follows (See Table D and Fig. 5 through 7):

Use KS:19094 antiseize compound on all screws threaded into aluminum.

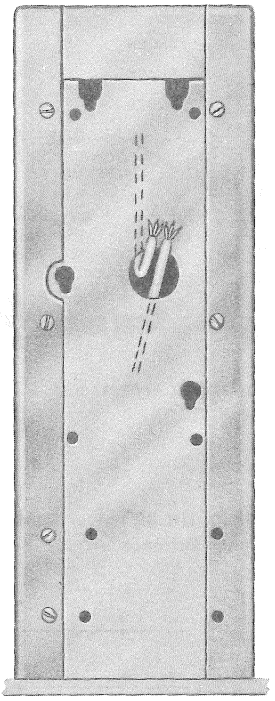


Fig. 21—Station Connections

(a) ***KS-19425, List 16 directory rack and KS-19425, List 26 shelf assembly. (Fig. 6).***

Note: The List 16 directory rack accommodates one 3-inch binder in the left-rear corner of the booth. The List 26 shelf assembly fastens to the directory rack and extends across the back of the booth and under the coin telephone.

(1) Secure the directory rack to the cross rails in the left-rear corner using two No. 10-32 by 1/2 Phillips FHM screws and two No. 10 CSK lockwashers.

(2) Secure the shelf assembly to the bottom of the backboard and to the cross rails using five No. 10-32 by 1/2 RHM screws.

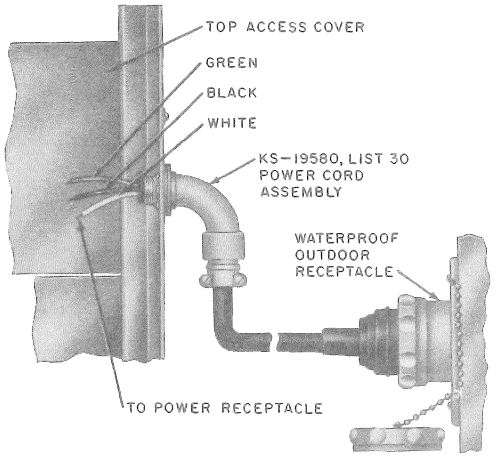


Fig. 22—KS-19580, List 30 Power Cord Assembly for Overhead Entrance

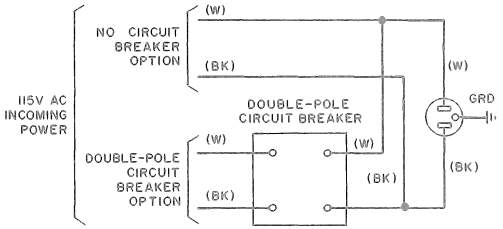


Fig. 23—Power Connections

(3) Secure the shelf assembly to the directory rack using the screw furnished with the directory rack.

(b) ***KS-19425, List 27 Shelf Assembly and KS-20030, List 3 Directory Hanger (Fig. 7)***

Note: The List 27 shelf assembly spans the rear wall and can be used separately, or with a KS-20030, List 3 directory hanger.

(1) Secure the shelf assembly to the backboard using two No. 10-32 by 1/2 RHM screws.

(2) Secure the shelf assembly to the cross rails using five No. 10-32 by 1/2 RHM screws.

(3) Refer to Section 508-710-102 for additional information on the KS-20030, List 3 directory hanger.

(c) ***KS-19425, List 13 Directory Shelf (Fig. 5)***

Note: The List 13 directory shelf is available for indoor use to be externally mounted on the booth.

A KS-19425, List 14 mounting plate must be used in conjunction with the directory shelf.

(1) Install KS-19425, List 14 mounting plate in the same manner as a standard glass panel in the bottom position on the right side of the booth. Install the plate with shelf mounting holes toward top.

(2) Secure the directory shelf to the mounting plate using seven No. 10-24 by 9/16 carriage bolts and seven No. 10-24 stop nuts.

Install the bolts with the heads on inside of booth.

SEAT ASSEMBLY

3.21 A KS-19425, List 12 mounting plate (Fig. 5) must be used for mounting the seat.

3.22 Install KS-19425, List 12 mounting plate as follows:

(1) Install the mounting plate in the same manner as a standard glass panel in the bottom position on the left side of the booth.

(2) Install a B-650894 clip (furnished with seat assembly) on each corner of the List 12 mounting plate using four No. 8-32 by 3/8 SEMS RHM screws.

Install the clips on the inside of the booth. Their purpose is to prevent the removal of retaining strips.

3.23 Install the seat assembly on the upper portion of the mounting plate using the following items (furnished with seat assembly). Install items in the sequence listed.

- Four 1/4-20 by 1-1/8 carriage bolts (install with heads on outside of booth)
- Four B-650893 spacers
- Seat assembly
- Two 1/4-inch flatwashers (front and rear bolts)
- Four 1/4-inch lockwashers
- Four 1/4-20 cap nuts

3.24 Tighten all nuts securely.

MULTIPLE INSTALLATIONS

3.25 Perform the following operations for installing multiple booths:

(1) Install the first booth in the same manner outlined in 3.01 through 3.24.

(2) Install the second booth adjacent to the first booth.

The second booth will not have glass panels and telephone sign in the side which joins the first booth.

(3) Join the two booths together using a KS-16797, List 11 multiple kit (Fig. 16). The frames are installed in the same manner as the glass panels.

(4) Push wires through the grommets, and complete the wiring of all booths.

(5) Remove backing from the rubber sealing strip. Place the sealing strip along the joint between the two joining booths.

(6) Remove the knockouts from the joining sides of the booth roofs.

(7) Put one roof back in place. Insert the grommets in the knockout spaces. Install next roof. Be sure that each grommet seals the knock-out spaces. Tighten the roofs.

(8) On outdoor installations only, seal the top joint between adjoining roofs with caulking compound.

KS-19425 BOOTH (INDOOR-OUTDOOR)
IDENTIFICATION AND INSTALLATION

1. GENERAL

1.01 This section is reissued to add information on:

- KS-19425, List 2 booth (Fig. 1) which replaces the List 1 booth (MD).
- KS-19425, List 26 and List 27 shelf assemblies
- KS-20030, List 3 directory hanger (optional)
- KS-19425, List 25 lower backboard plate and cover assembly (optional)

1.02 Installation information in this section was formerly contained in Section 508-232-200 which is hereby cancelled.

2. IDENTIFICATION

PURPOSE

2.01 The KS-19425, List 2 booth (Fig. 1) is an indoor-outdoor aluminum and glass telephone booth designed for single, side-by-side, or back-to-back installations.

2.02 This booth is designed primarily for stand-up service; however, a high-position seat, located approximately 27 inches from the floor, is available for sit-down service if desired.

DESIGN FEATURES

2.03 The overall dimensions of the booth are:

- Height—83-1/8 inches
- Width—28-3/4 inches
- Depth—28-3/4 inches (front sign projects 1-1/2 inches beyond this dimension)

2.04 The self-closing door, consisting of two vertical sections, each supporting a clear safety glass panel, folds inside the booth along the right wall. For indoor use, the door may remain in the normally opened position if so desired. A rubber molding is attached to the bottom edge of the door to reduce hazards. When the door is released from the open position, the spring assembly will stop and position the door at a partially open position.

Illumination and Ventilation

2.05 The booth is illuminated by a KS-19207, List 7 light fixture which illuminates the telephone signs on the front, sides, and rear of the booth. (See Section 508-820-100.)

2.06 When used outdoors, this booth may be equipped with a KS-19261, List 1 light control. The light cell is mounted near the top of the right front column and automatically turns the lamps off in the daylight and on in the evening. In multiple installations, a maximum of five booths may be interconnected and controlled by one light control mounted in the end booth of the row. See Section 508-825-100 for information on KS-19261, List 1 light control.

2.07 In multiple installations, a KS-19580, List 51 receptacle assembly (Fig. 2) must be used in conjunction with a KS-19261, List 1 light control unit as follows:

(a) One recptacle for ***each multiple installation*** where KS-19207, List 3 light and blower units are used.

(b) One receptacle for ***each booth*** where KS-19207, List 3 light and blower units are used.

2.08 When the KS-19580, List 51 receptacle assembly is required, it must be ordered separately plus the following associated items:

- (1) B-650837 bracket
- (4) No. 8—32x 3/8-inch Phillips RH self-tapping screws.

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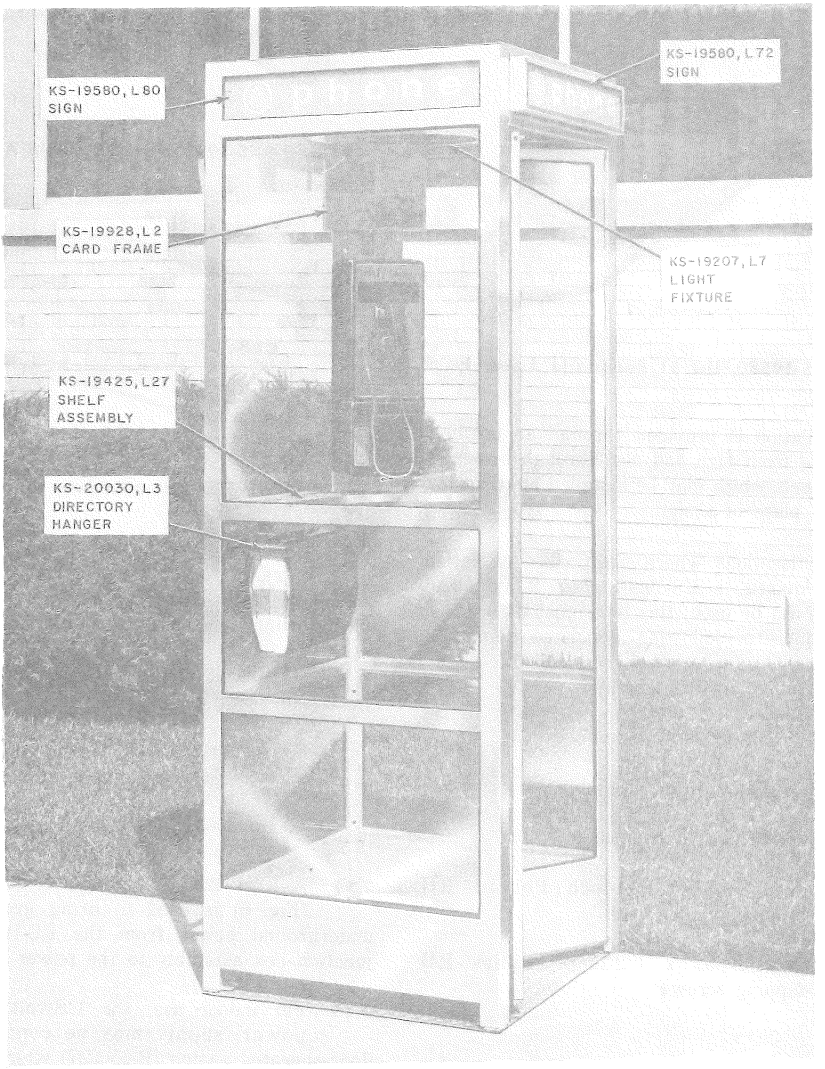


Fig. 1—KS-19425 List 2 Booth (Indoor-Outdoor)

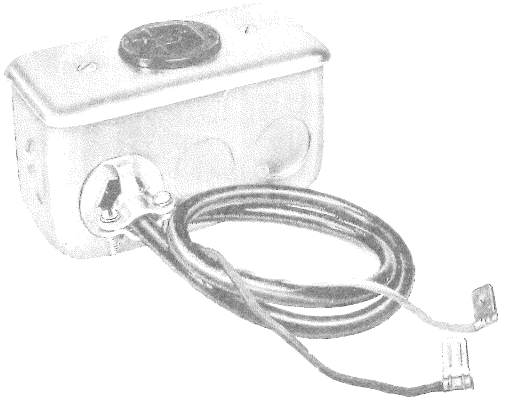


Fig. 2—KS-19580, List 51 Receptacle Assembly

2.09 Ventilation is provided through an opening in the front sign and also through screened louvered panels which may be installed at the sides and rear in place of a sign.

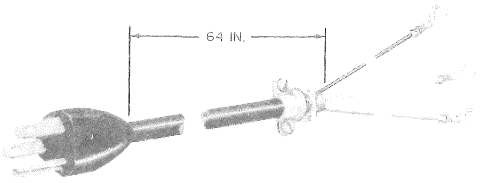
2.10 ◗For locations where additional ventilation is required, a KS-19207, List 3 light and blower unit can be used; this unit must be ordered separately plus the following associated items:

- (1)B-650927 switch assembly
- (1)B-650929 actuator assembly
- (1)B-684799-2 switch assembly
- (1)B-558806-2 switch housing
- (2) No. 8—32 x 1-4-inch Phillips RH self-tapping screw
- (2) No. 8—32 x 1/2-inch Phillips RH self-tapping screw◖

Power

2.11 A KS-19425, List 22 cable assembly (Fig. 3) may be used to bring overhead power into an ***indoor*** booth at either side or rear.

2.12 A KS-19580, List [illegible] power cord assembly (Fig. [illegible] is [illegible] bring overhead power into an ***outdoor*** [illegible].



◗Fig. 3—KS-19425, List 22 Cable Assembly◖

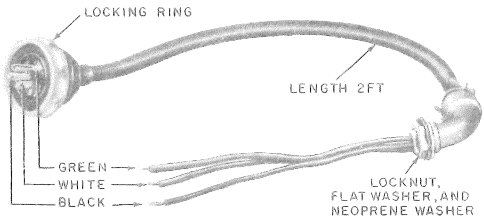


Fig. 4—KS-19580, List 30 Power Cord Assembly

2.13 ◗For underground or ground level power entrance, order a KS-19425, List 25 lower backboard plate and cover assembly (Fig. 5) plus the following items if a circuit breaker is required:

- (1) Circuit breaker (Heineman Electric Co. No. 0912)
- (1) KS-19426, List 17 circuit breaker box assembly
- (2) No. 8—32 x 3/8-inch phillips RHM screws.

2.14 A KS-19425, List 24 power cable assembly (Fig. 6) is used to bring ground level or underground power from the KS-19426, List 17 junction box assembly to the power receptacle.◖

2.15 For indoor use, the 118-volt, 60 cycle ac power supply may be controlled by a door-operated switch (B-650927) which is activated upon closing the booth door.

Wiring

2.16 The telephone wire may terminate on a 123A1A protector or a 42A connecting block located above the booth ceiling.

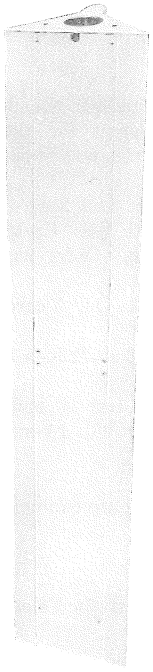


Fig. 5—KS-19425, List 25 Lower Backboard Plate and Cover Assembly

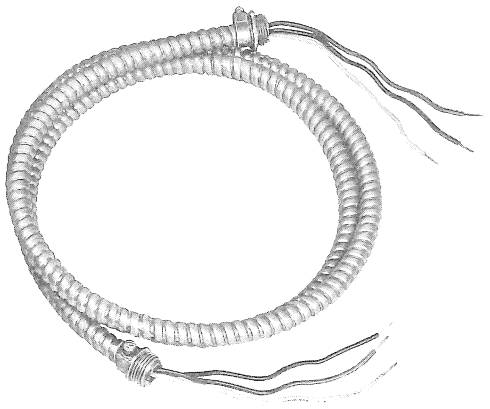


Fig. 6—KS-19425, List 24, Power Cable Assembly

2.17 The booth is furnished wired for coin telephone connections.

2.18 A KS-19425, List 21 sign blank assembly (Fig. 7) must be used for overhead power and telephone wire entrance.

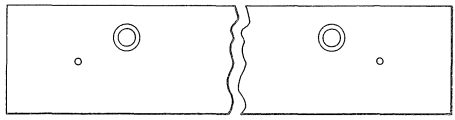


Fig. 7—KS-19425, List 21 Sign Blank Assembly

Signs

2.19 A translucent sign with the Bell System Emblem and the word "phone" is mounted over the door in an aluminum frame which projects 1-1/2 inches beyond the front of the booth (Fig. 1).

2.20 Translucent signs with the Bell System Emblem and the word "phone," or aluminum solid or louvered panels are mounted along the roof line on side and rear.

Panels

2.21 Panels common to KS-19425 and KS-19580 booths are listed under the KS-19580 number.

2.22 The both may have clear tempered glass panels, porcelain enamels (Table C) finished metal panels, or aluminum panels installed in the sides and rear.

2.23 The bottom section of this booth may have short aluminum panels which provide open space around the booth so paper and trash will not collect on the floor.

Note: Use KS-19580, List 40 bottom panels between booths in multiple installations to reduce conversation interference.

Leveling Inserts

2.24 Adjustable leveling inserts (Fig. 8) are provided to facilitate booth leveling up to 2 inches. The leveling insert assembly is also used for bolting the booth to its mounting surface.

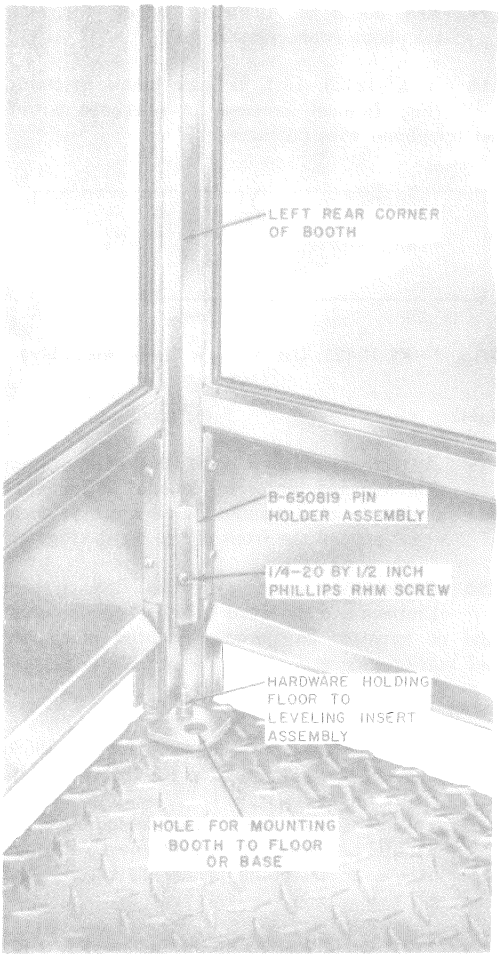

LEFT REAR CORNER OF BOOTH
B-650819 PIN HOLDER ASSEMBLY
1/4-20 BY 1/2 INCH PHILLIPS RHM SCREW
HARDWARE HOLDING FLOOR TO LEVELING INSERT ASSEMBLY
HOLE FOR MOUNTING BOOTH TO FLOOR OR BASE

Fig. 8—Leveling Insert Assembly

ORDERING GUIDE

2.25 Table A provides the basic list numbers assigned to KS-19425, List 2 and the previous List 1 booth components.

2.26 Table B describes the telephone sign panels for the list 2 and previous list 1 booth assemblies.

2.27 Table C describes the door, side, bottom, and rear panels for the List 2 and the previous List 1 booth assemblies.

2.28 A KS-19928, List 2 card frame is available for use with the KS-19425 booth. (See Section 508-811-100). Order as follows:

- (1) KS-19228, List 2 card frame
- (4) No. 8—32 x 1/2-inch Phillips RH screws

2.29 A KS-19580, List 20 multiple kit (Fig. 9) is available for side-by-side or back-to-back assemblies.

2.30 The following are examples of typical orders:

Example 1:

1—KS-19425, List 2 Telephone Booth w/List 60 finish.

Note: The above order will include the following items:

1—KS-19580, List 72 Telephone Sign Panel

2—KS-19580, List 80 Telephone Sign Panels

3—KS-19580, List 12 Large Glass Panels

2—KS-19580, List 14 Door Panels

1—KS-19207 List 7 light fixture

1—KS-19425 List 27 Shelf Assembly

1—KS-19425 List 21 Sign Blank Assembly

6—KS-19580, List 10 Small Glass Panels

3—KS-19580, List 38 Bottom Panels w/List 60 finish.

TABLE A

DESCRIPTION OF KS-19425 LIST NUMBERS

KS-19425 LIST NO.	DESCRIPTION	FIG. NO.	REMARKS
2	Booth	1	For indoor or outdoor service
*10	Foundation Template	10	Used in concrete base to secure booth
*11	Seat Assembly	17	High position
*12	Mounting Plate		Used to mount List 11 seat assembly
*13	Directory Shelf		Externally mounted for indoor use. Has provisions for mounting KS-6472 and KS-6538 directory fasteners
*14	Mounting Plate		Used to mount List 13 directory shelf
†16	Directory Rack	15	Mounts directory in left rear corner of booth. Will accommodate binders up to 3-inches.
21	Sign Blank Assembly	7	Used on rear or side of booth for overhead power and telephone wire entrance
*22	Cable Assembly	3	Used to bring overhead power into indoor booth
*24	Power Cable Assembly	6	Used to bring power from the KS-19426, List 17 circuit breaker box to the receptacle and box located above the ceiling, when underground or ground level power entrance is desired
*25	Lower Backboard Plate and Cover Assembly	5	Used when underground or ground level power entrance is desired in conjunction with KS-19426, List 17 circuit breaker box and a KS-19425, List 24 power cable assembly
†26	Shelf Assembly	15	Used with List 16 directory rack
27	Shelf Assembly	16	Writing shelf. Used with KS-20030, List 3 directory hanger
60	Finish		Bright
61			Gold
62			Bronze
63			Red
64			Blue
65			Green
66			Clear

* Not furnished, must be ordered separately.

† Not furnished, must be ordered separately as an alternative item.

TABLE B

TELEPHONE SIGN PANELS

KS-19580 LIST NO.	COLOR		REMARKS
	LETTERS	BACKGROUND	
*16		Aluminim Solid Panel	Used on sides and rear in place of telephone sign
*35		Aluminum Louvered Panel	Used on sides and rear to increase ventilation of booth
72	White	Blue	Front sign only
*75	Blue	White	
80	White	Blue	Rear and side signs only
*84	Blue	White	
*86	None	Blue	Front sign only
*87		White	
*88		Blue	Rear and side signs only
*89		White	

* Not furnished, must be ordered separately as an alternative item.

♦TABLE C♦

DOOR, SIDE, BOTTOM, AND REAR PANELS

KS-19580 LIST NO.	DESCRIPTION	REMARKS	
10	Tempered Glass Panel	7/32-inch thick small side panel	
12		7/32-inch thick large side panel	
14		7/32-inch thick door panel	
*32	Aluminum Panel	Small side panel	
*33		Large side panel	
38		Short bottom panel	
*40		Full size bottom panel	
*90	Porcelain Enamel Panel	Large side panel	Blue
*91			Gray
*92			Red
*93		Small side panel	Blue
*94			Gray
*95			Red

* Not furnished, must be ordered separately as an alternative item.

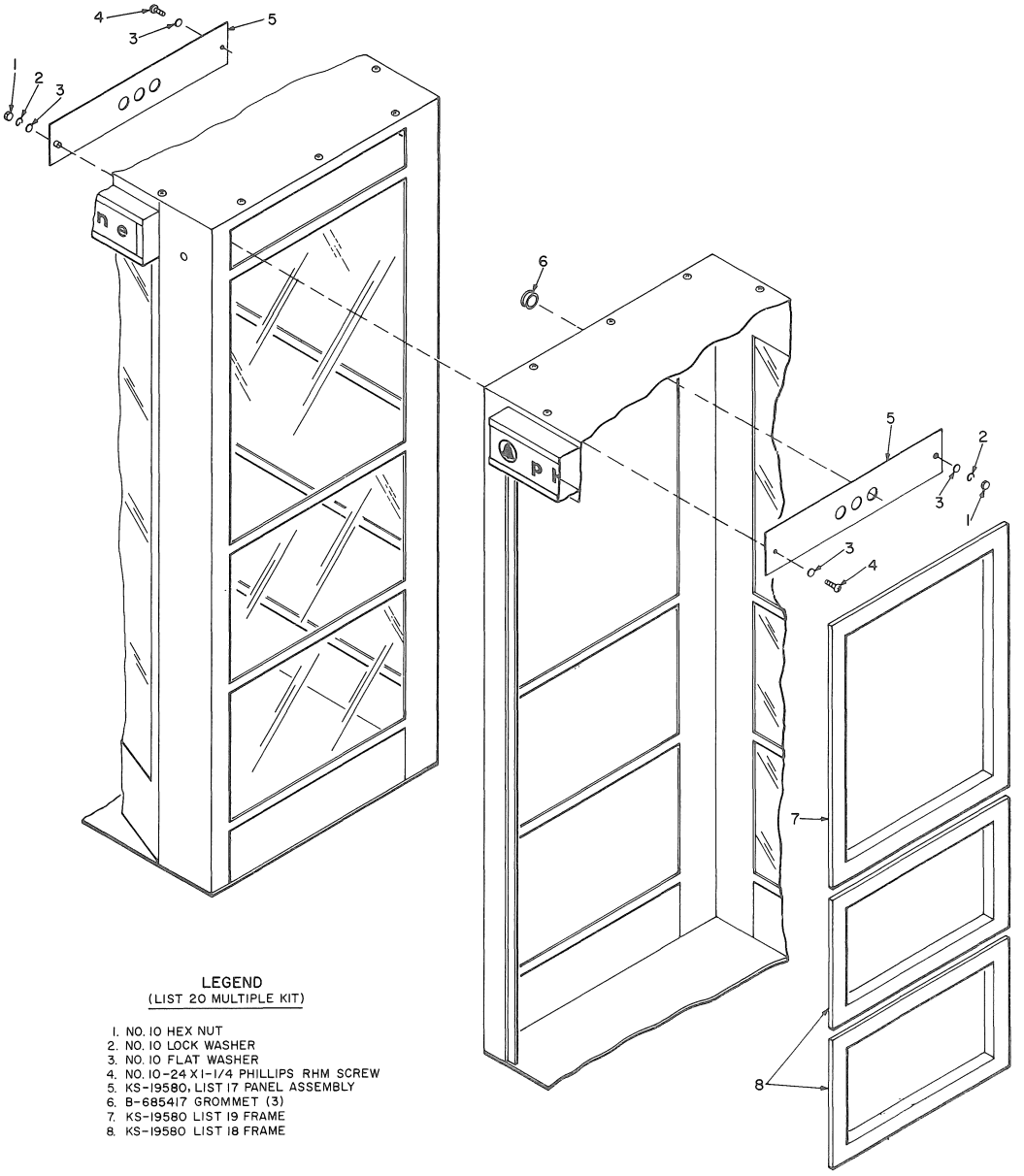

LEGEND
(LIST 20 MULTIPLE KIT)
1. NO. 10 HEX NUT
2. NO. 10 LOCK WASHER
3. NO. 10 FLAT WASHER
4. NO. 10-24 X 1-1/4 PHILLIPS RHM SCREW
5. KS-19580, LIST 17 PANEL ASSEMBLY
6. B-685417 GROMMET (3)
7. KS-19580 LIST 19 FRAME
8. KS-19580 LIST 18 FRAME

Fig. 9—KS-19580, List 20 Multiple Kit

Note: Variations may be made in the KS-19425 List 2 booth by ordering from Tables A, B and C. See example 2.

Example 2:

2—KS-19425, ▮List 2▮ Telephone Booths w/List 60 finish, equipped with:

1—KS-19580, List 20 multiple kit w/List 60 finish

2—KS-20030, ▮List 3 Directory Hangers.▮

3. INSTALLATION

3.01 Booth location should be:

- Within full view of public
- Readily accessible to customer
- Free of such hazards as broken or uneven pavements and flooring
- Spaced with a minimum clearance of 6 inches from property lines and buildings
- Placed with as little step up as possible (maximum of 3 inches) but still maintaining proper drainage.
- Protected by bumper guards (outdoor only)

3.02 The KS-19425 booth requires anchoring at all outdoor locations. Anchoring at indoor locations is desirable; however, this may not be possible in some instances.

Installing the Foundation Template

3.03 When necessary to provide a concrete base, a KS-19425, List 10 foundation template (Fig. 10) is used. Install the template as follows:

(1) Prepare a form 40 inches square with an inside depth of 10 inches (Fig. 11).

(2) Tamp 6 inches of cinders or gravel in the bottom of form.

(3) Position the template in the form on wooden blocks so that the top of four mounting inserts will be flush with top of concrete base as shown in Fig. 11.

Nail holes are provided in the four corners of the template for fastening to the wooden blocks. Use the blocks to level and support the template at the proper height.

(4) If underground power and telephone wires are to be used, provide for holes in the concrete base at corresponding hole positions in the template.

Do not remove screw plugs from booth mounting inserts until booth is installed. Their purpose is to prevent dirt from filling mounting holes.

(5) For multiple booth installations where separation between booths is *not* required, lengthen the form approximately 29 inches for each additional booth. Fasten adjacent templates together with two No.10-32 by 1/2-inch RHM screws and two No. 10-32 hex nuts.

(6) For multiple booth installations where separation of booths *is* required, lengthen the form sufficiently and fasten adjacent templates together with steel straps and No. 8 sheet metal screws.

(7) Pour concrete around the template to fill the form.

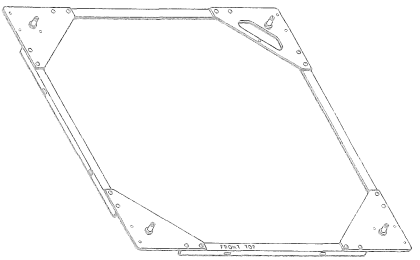


Fig. 10—KS-19425, List 10 Foundation Template

Installing the Booth

3.04 Secure booth as follows:

(a) If a KS-19425, List 10 foundation template is used, remove insert plugs from template

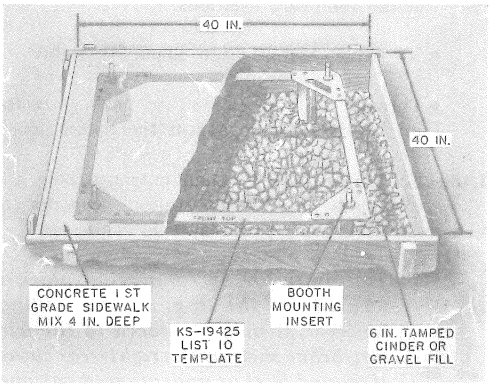

40 IN.
40 IN.
CONCRETE 1 ST GRADE SIDEWALK MIX 4 IN. DEEP
KS-19425 LIST 10 TEMPLATE
BOOTH MOUNTING INSERT
6 IN. TAMPED CINDER OR GRAVEL FILL

Fig. 11—Concrete Base Preparation with KS-19425, List 10 Template

and secure leveling insert assemblies (Fig. 8) of booth to template using four 3/8-16 by 1-1/4 inch steel zinc plate hex head bolts, four 3/8-inch lockwashers, and four 3/8-inch flatwashers.

(b) If a KS-19425, List 10 foundation template is not used, and the booth is to be mounted on concrete:

(1) Mark the locations for four mounting holes.

(2) Drill the four holes to accept masonry fasteners for 3/8-16 by 1-1/4 inch steel zinc plate bolts.

(3) Install the masonry fasteners. See section on masonry fasteners.

(4) Secure leveling insert assemblies of booth to masonry fasteners using four 3/8-16 by 1-1/4 inch steel zinc plate hex head bolts, four 3/8-inch lockwashers, and four 3/8-inch flatwashers.

(c) If booth is to be mounted on a wooden floor:

(1) Mark the location for four mounting holes.

(2) Drill four lead holes to accommodate 5/16 by 2-1/2 inch lag screws.

(3) Secure booth to floor using four 5/16 by 2-1/2 inch lag screws, four 5/16-inch lockwashers, and four 5/16-inch flatwashers.

(d) Adjust the leveling insert assemblies (Fig. 8) if necessary, and ensure that the booth is level.

Note: Insert assemblies are adjusted by moving the B-650819 pin holder assembly up or down.

Door Requirements

3.05 After anchoring and leveling booth, check door for the following:

(a) At outdoor locations, the door is adjusted to remain open approximately 1-1/2 inches when the booth is not being used.

(b) At indoor locations, the hinge spring may be disengaged and the normal door position is fully open when the booth is not being used.

(c) When pushed closed from inside, the door should remain completely closed. A slight pull on the handle should open the door and restore it to its normal open position.

Telephone Wiring

Aerial wire spans fastened to booth should not exceed 25 feet.

3.06 At outdoor locations, attach drop wire hook (Fig. 12) or corner bracket (Fig. 13) (whichever is required) to the KS-19425, List 21 sign blank assembly which may be located on the side or rear of the booth.

3.07 Secure drop wire hook (Fig. 12) to clinch nut (provided with sign blank assembly) using one 1/4-20 by 3/4-inch FHM screw.

3.08 If a corner bracket (Fig. 13) is used:

(1) Secure the corner bracket to the clinch nut using one 1/4-20 by 3/4 inch Phillips RHM screw.

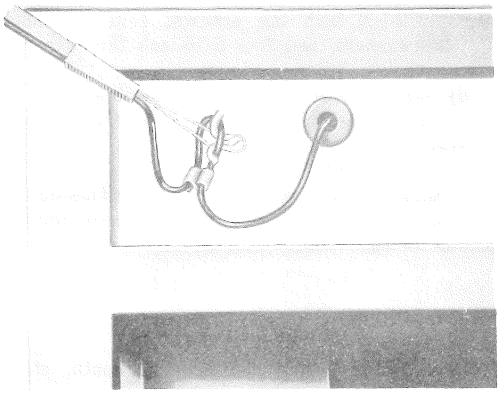


Fig. 12—Drop Wire Hook for First Attachment

(2) Using the bracket as a template, drill a clearance hole for another 1/4-inch screw.

(3) Use one 1/4-20 by 3/4 inch Phillips RHM screw, one 1/4-inch flat washer, one 1/4-inch lockwasher, and one 1/4-inch hex nut to further secure the bracket to the sign blank assembly.

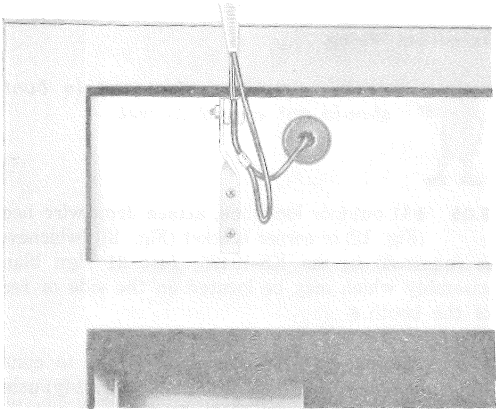


Fig. 13—Corner Bracket for First Attachment

3.09 Telephone wire entrance holes are located in the following locations:

- KS-19425, List 21 Sign Blank Assembly
- Through metallic conduit to holes provided in the righ-rear corner of the booth floor.

3.10 Feed drop wire through entrance hole and terminate on 123A1A station protector or 42A connecting block (whichever is required).

The protector or connecting block is located in the top of the ceiling; however, it may be moved to the wire way below shelf in the right-rear corner if ground level or underground entrance is used. The roof is equipped with a gasket and should not be removed unless wiring cannot be done by removing dome assembly and working from inside.

Coin Station Connections

3.11 Station connection wires are furnished as shown in Fig. 14. Complete connections are covered in sections entitled Coin Telephone Sets, Connections.

Electrical Wiring and Grounding

3.12 Electrical grounding of the booth is covered in Section 508-100-100.

3.13 Power wire entrance holes are located in the following locations:

- KS-19425, List 21 Sign Blank Assembly
- Through metallic conduit to holes provided in the right-rear corner of the booth floor.

3.14 A duplex receptacle for electrical wiring is located in the ceiling area. Avoid removing roof.

3.15 Bring overhead power into an indoor booth using a KS-19425, List 22 cable assembly. Bring overhead power into an outdoor booth using a KS-19580, List 30 cable assembly.

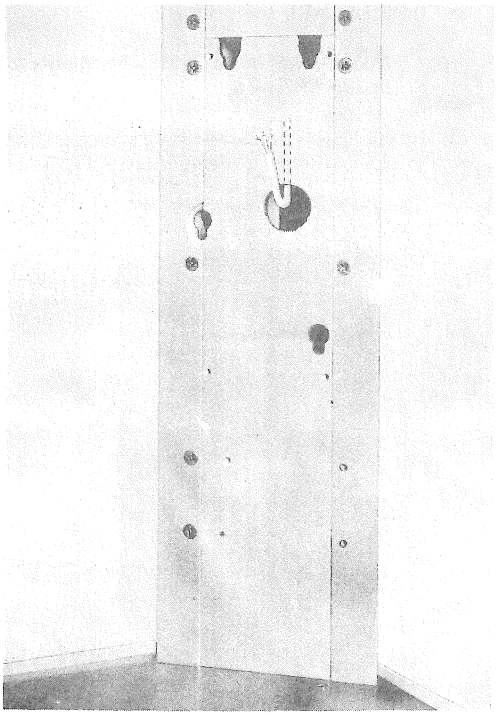


Fig. 14—Station Wiring

3.16 Refer to 2.13 and 2.14 for additional apparatus that must be ordered when ground level or underground power entrance is desired.

3.17 Interconnect power between adjacent booths in multiple installations using approved No. 14 gauge wire. Local electrical codes will determine the number of booths that can be interconnected.

3.18 Ensure that the ground terminal of the station protector is connected to the booth ground lug with bonding wire provided. If a bonding wire is not present, use an approved No. 14 gauge wire.

3.19 In multiple installations, bond the booths together for grounding purposes.

Directory Rack, Hanger, and Shelf Arrangements

Use KS-19094 antiseize compound on all screws threaded into aluminum.

3.20 To install KS-19425, List 16 directory rack and KS-19425, List 26 shelf assembly (Fig. 15), proceed as follows:

(1) Secure the directory rack to the cross rails in the left-rear corner using two No. 10-32 by 1/2-inch Phillips RHM screws and two No. 10 CSK lockwashers.

(2) Secure the shelf assembly to the bottom of the backboard and to the cross rails using six No. 10-32 by 1/2-inch Phillips RHM screws.

(3) Secure the shelf assembly to the directory rack using the No. 10-24 by 1/4-inch Phillips RHM screw furnished with the directory rack.

3.21 To install KS-19425, List 27 shelf assembly and KS-20030, List 3 directory hanger (Fig. 16):

(1) Secure the shelf assembly to the bottom of the backboard and to the cross rails using seven No. 10-32 by 1/2-inch Phillips RHM screws.

(2) Secure the directory rack to the bracket on the underside of the shelf using the four No. 10-32 by 1/4-inch Phillips RHM screws furnished with the directory rack.

3.22 To install KS-19425, List 13 directory shelf (Fig. 17):

A KS-19425, List 14 mounting plate must be used in conjunction with the directory shelf.

(1) Install KS-19425, List 14 (Fig. 17) mounting plate in the same manner as a standard glass panel in the second position on the right side of the booth. Install the plate with shelf mounting holes toward top.

(2) Secure the directory shelf to the mounting plate using the seven No. 10-24 by 9/16-inch

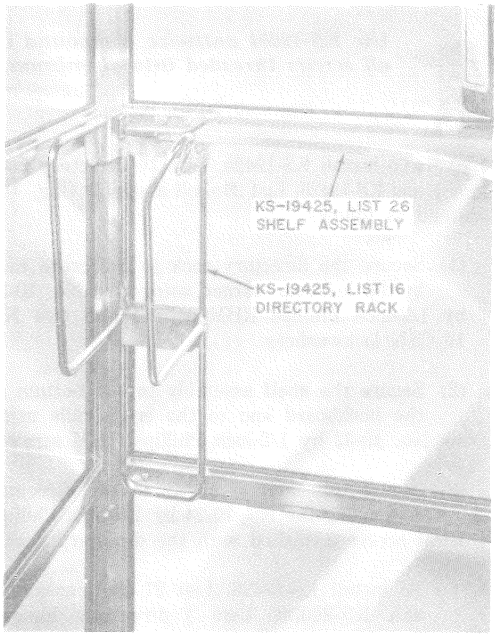


Fig. 15—KS-19425, List 16 Directory Rack and KS-19425, List 26 Shelf Assembly

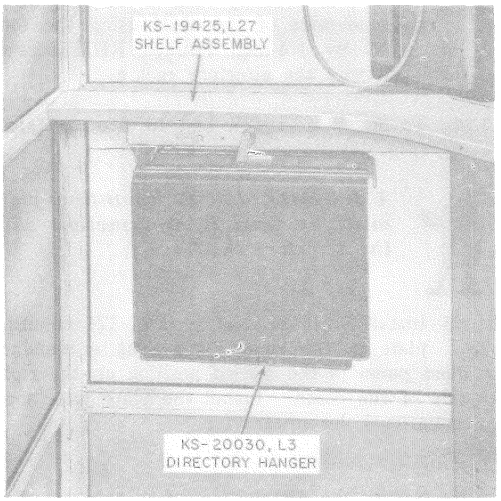


Fig. 16—KS-19425, List 27 Shelf Assembly with KS-20030, List 3 Directory Hanger

carriage bolts and seven No. 10 stop nuts which are furnished with the shelf.

Install the bolts with the heads on inside of booth.

(3) Install KS-6472 or KS-6538 directory fastener to shelf. Refer to Section 508-710-101.

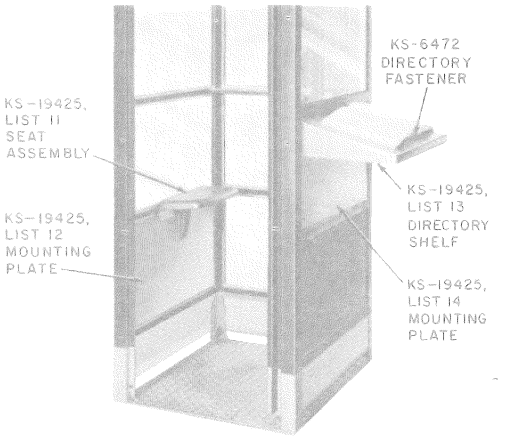


Fig. 17 —KS-19425, List 11 Seat Assembly, KS-19425 List 13 Directory Shelf and Associated Mounting Plates

Seat Assembly

3.23 To install KS-19425, List 11 seat assembly (Fig. 17):

A KS-19425, List 12 mounting plate must be used to mount the seat.

(1) Install the KS-19425, List 12 (Fig. 17) mounting plate in the same manner as a standard glass panel in the bottom position on the left side of the booth.

(2) Install a B-650894 clip (furnished with seat assembly) on each corner of the List 12 mounting plate using four No. 8-32 by 3/8-inch Phillips RHM screws.

Install the clips on the inside of the booth. Their purpose is to prevent the removal of retaining strips.

(3) Install the seat assembly to the upper portion of the mounting plate using the following items (furnished with the seat assembly). Install items in the sequence listed.

- Four 1/4-20 by 1-1/8 inch carriage bolts (install with heads on outside of booth)
- Four B-650893 spacers
- Seat assembly
- Two 1/4-inch flatwashers (front and rear bolts)
- Four 1/4-inch lockwashers
- Four 1/4-20 cap nuts

(4) Tighten all nuts securely.

Lower Backboard Plate and Cover Assembly

3.24 To install KS-19425, List 25 lower backboard plate and cover assembly (Fig. 5):

(1) Remove four plastic plugs located in lower part of right-rear column.

(2) Insert four J-bolts (furnished with assembly) in the holes with the J-part of the bolt in an upward position.

(3) Remove upper and lower plate assembly from backboard.

(4) Place backboard in position on column

(5) Secure backboard using flat washers, lock washers, and nuts furnished with the assembly.

(6) Replace the upper and lower plate assembly on backboard.

Multiple Installations

3.25 Install booth as outlined in 3.03 and 3.04.

The second booth will not have glass panels and telephone sign in the side which joins the first booth.

3.26 Join the two booths together using a KS-19580, List 20 multiple kit (Fig. 9). The frames are installed in the same manner as the glass panels.

3.27 Refer to 2.07 for requirements on use of the KS-19580, List 51 receptacle assembly.

3.28 Install the receptacle assembly on the mounting plate provided on the cross brace above the ceiling (Fig. 18) using four No. 8-32 by 3/8 inch Phillips RH screws.

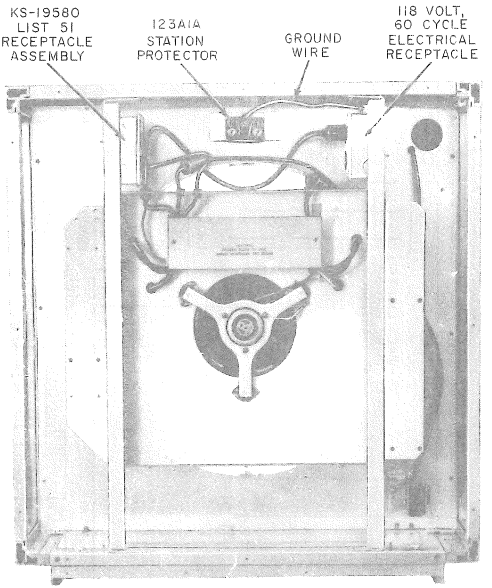
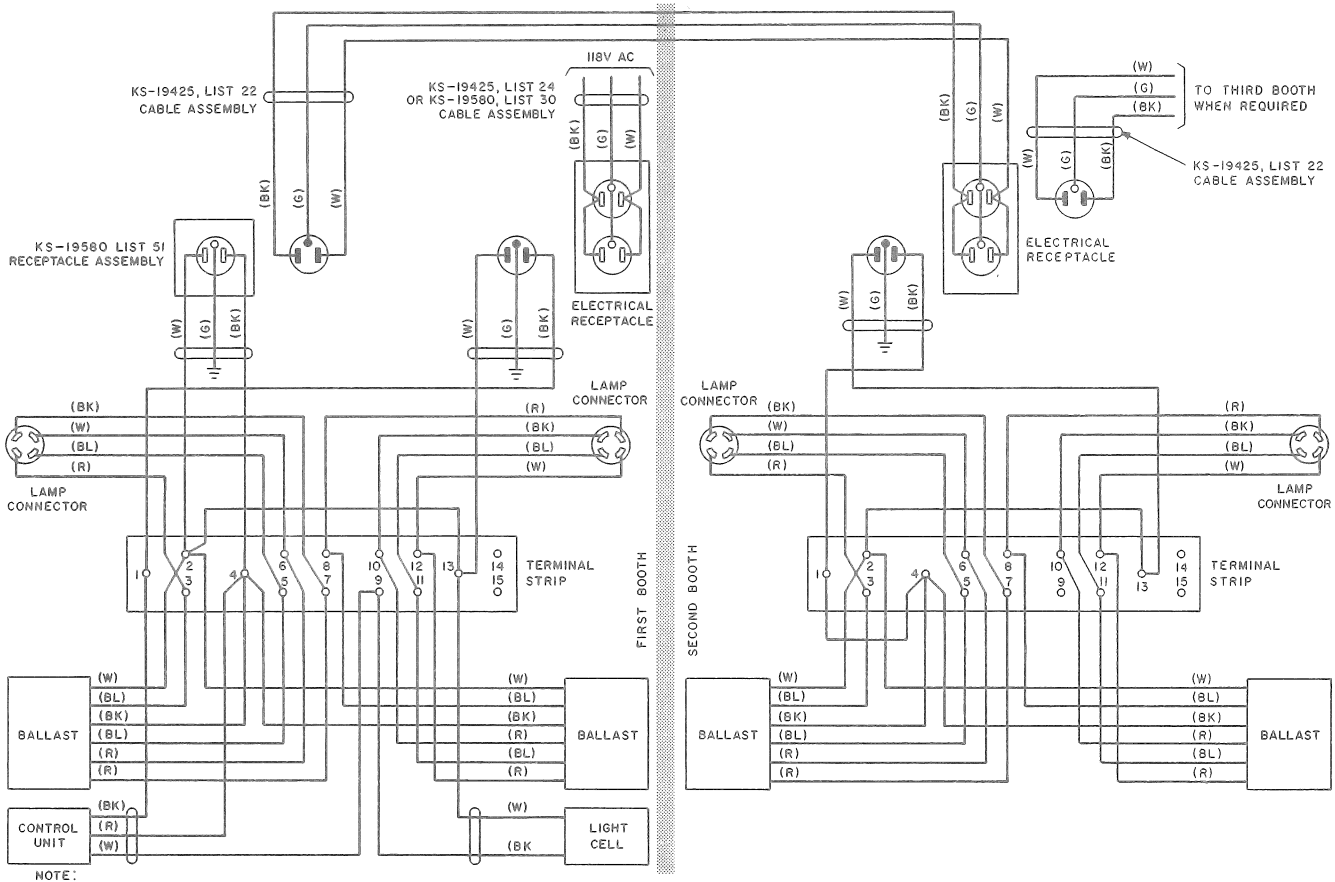


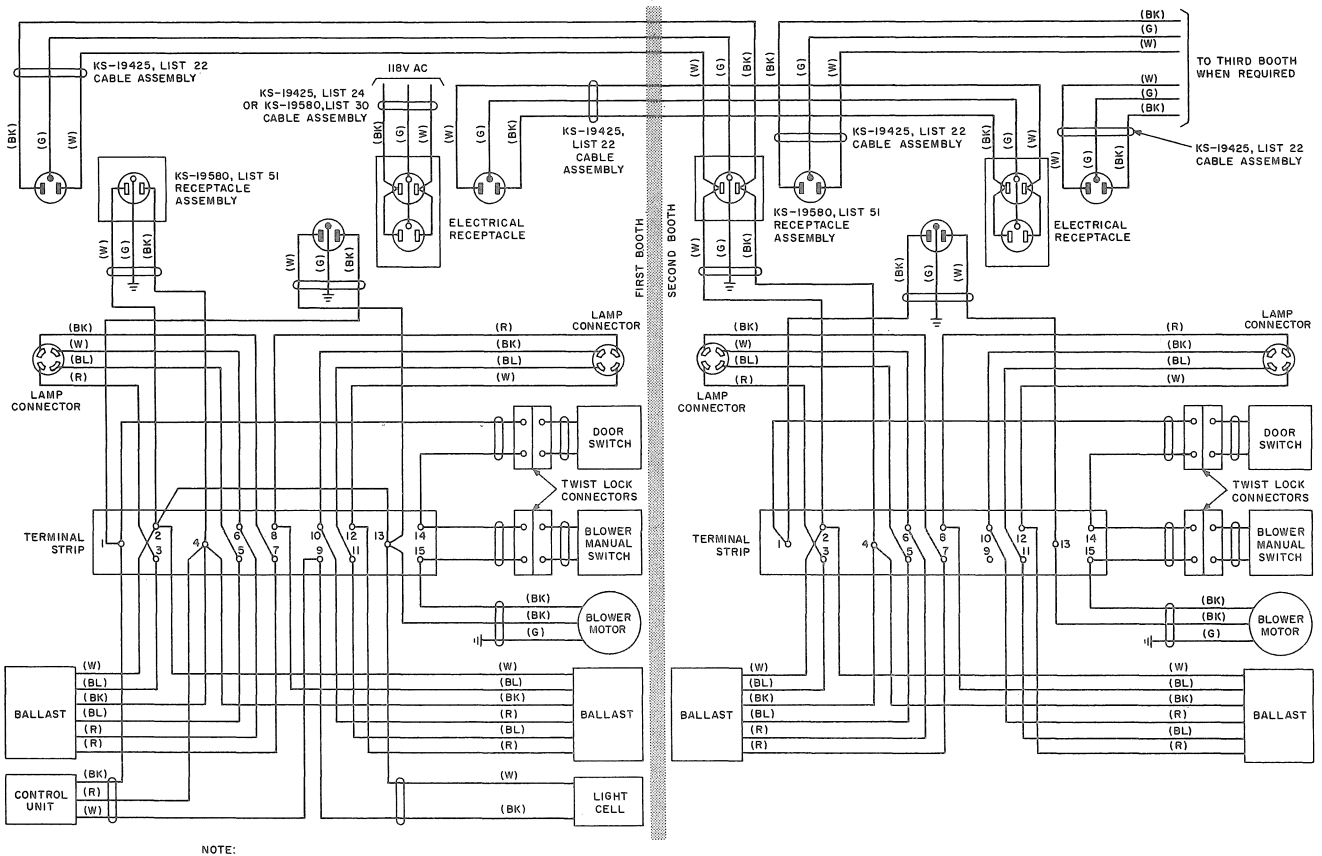
Fig. 18—KS-19425 Booth Ceiling Area

3.29 Refer to Fig. 19 and 20 for wiring arrangements of multiple installations.



NOTE:
FOR MULTIPLE INSTALLATIONS USING KS-19207, LIST 7 UNITS, AND USING A KS-19261 LIGHT CONTROL UNIT (MAXIMUM OF FIVE BOOTHS FOR EACH CONTROL UNIT), REMOVE THE STRAP WIRE FROM TERMINAL STRIP TERMINALS 1 AND 4 IN FIRST BOOTH. INSTALL A KS-19580, LIST 51 RECEPTACLE ASSEMBLY IN THE FIRST BOOTH. CONNECT ELECTRICAL RECEPTACLE OF SECOND BOOTH TO LIST 51 RECEPTACLE OF FIRST BOOTH USING KS-19425, LIST 22 CABLE ASSEMBLY. CONNECT ELECTRICAL RECEPTACLE OF THIRD, FOURTH, AND FIFTH BOOTHS TO ELECTRICAL RECEPTACLE OF PREVIOUS BOOTH USING KS-19425, LIST 22 CABLE ASSEMBLY.

Fig. 19—Wiring Diagram of Multiple Installation Using KS-19207, List 7 Light Unit



NOTE:

FOR MULTIPLE INSTALLATIONS USING KS-19207, LIST 3 LIGHT AND BLOWER UNITS, AND USING A KS-19261 LIGHT CONTROL UNIT (MAXIMUM OF FIVE BOOTHS FOR EACH CONTROL UNIT), REMOVE THE STRAP WIRE FROM TERMINAL STRIP TERMINALS 1 AND 4 IN ALL BOOTHS. REMOVE THE STRAP WIRE FROM TERMINALS 2 AND 13 IN ALL BOOTHS EXCEPT FIRST BOOTH. INSTALL A KS-19580, LIST 51 RECEPTACLE ASSEMBLY IN EACH BOOTH. CONNECT LIST 51 RECEPTACLE OF SECOND, THIRD, FOURTH AND FIFTH BOOTHS TO LIST 51 RECEPTACLE OF PREVIOUS BOOTH USING KS-19425, LIST 22 CABLE ASSEMBLY. CONNECT ELECTRICAL RECEPTACLES IN SAME MANNER.

Fig. 20—Wiring Diagram of Multiple Installation Using KS-19207, List 3, Light and Blower Unit

KS-19425 BOOTH (INDOOR-OUTDOOR)

MAINTENANCE

1. GENERAL

1.01 This section is reissued to:

- Revise Table A
- Delete information on door guide adjustments
- Revise Fig. 3 and 4 to agree with latest engineering design

1.02 The local telephone company shall establish the appearance standards of all exposed surfaces.

1.03 The local telephone company shall establish the safety standards for all booths.

1.04 All screws threaded into aluminum parts during the course of repair shall be coated with KS-19094 antiseize compound.

2. BOOTH CHECK POINTS

- Safe approach to booth (have dangerous conditions corrected)
- Appearance of booth
- Electrical grounding
- Door operation
- Panels and signs
- Booth lighting
- Directories and binders
- Dome and lights
- Bumper guards around outdoor booths
- Security of booth anchorage
- Loose screws and bolts
- Seat assembly (if applicable)
- Shelf assemblies
- Power cords

3. CLEANING

3.01 Clean exposed surfaces in accordance with Section 770-170-308.

3.02 Ensure that the insect screen in the front sign enclosure is free of foreign material.

4. DOME ASSEMBLY

THINK *Use eye protection when removing the dome assembly.*

4.01 The B-551952 dome assembly must be removed to make the light assembly accessible. Do this in accordance with Fig. 1.

4.02 Clean the space between the ceiling and roof of all loose dirt and foreign material.

4.03 Clean the inside of the dome assembly in accordance with Section 770-170-308.

4.04 Replace dome assemblies which do not meet local telephone company standards.

5. LIGHT ASSEMBLY

THINK ***Use eye protection when handling fluorescent lamps. Before making any repairs or replacements in electrical equipment, disconnect plug or turn the service switch OFF and verify that circuit is dead by checking with an approved voltmeter.***

5.01 Each booth is equipped with a KS-19207, List 3 light and blower unit or a KS-19207, List 7 light fixture. The unit is equipped with two fluorescent Circline 40-watt cool white lamps.

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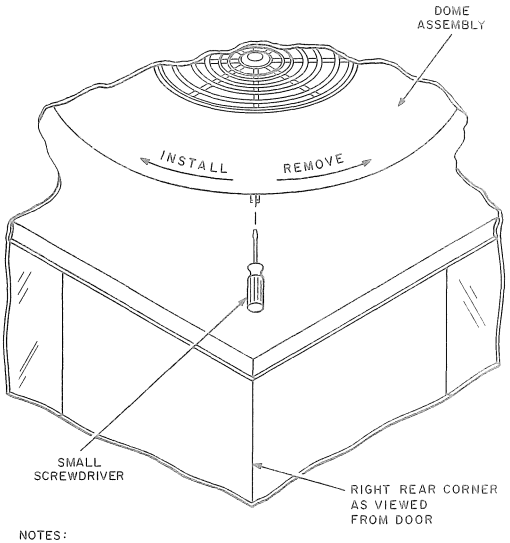


NOTES:
1. FOR REMOVAL, INSERT SMALL SCREWDRIVER THROUGH SLOT IN CEILING, DEPRESS DETENT SPRING, AND TURN DOME ASSEMBLY COUNTERCLOCKWISE.
2. FOR INSTALLATION, PLACE DOME ASSEMBLY IN CEILING AND TURN IT CLOCKWISE UNTIL DETENT SPRING ENGAGES AND LOCKS DOME.

Fig. 1—Method of Removing Dome Assembly

5.02 Refer to Section 508-820-100 for wiring and maintenance of the KS-19207 light and blower unit.

5.03 Ensure that the door operated switch assembly (B-650927) actuates properly when the door is closed. Also ensure that the manually operated blower switch assembly ▮(B-684779-2),▮ if present, located in the right rear corner of the booth, turns the blower on and off.

5.04 Ensure that all electrical leads are securely clamped away from the air inlet hole and from the rotating impeller if a blower is present.

5.05 When ballast shows signs of leaking compound, replace the complete KS-19207 unit.

5.06 See Section 508-232-200 for wiring diagrams of multiple installations.

6. LIGHT CONTROL UNIT

6.01 Maintenance instructions for KS-19261 light control units are covered in Section 508-825-100.

7. PANEL REPLACEMENT

SIDE AND REAR PANELS

Warning: Wear gloves and eye protection when handling glass panels to prevent personal injury. Use care when handling tempered glass. Nicks or scratches will damage the glass and may cause it to shatter. Do not allow metal tools to come in contact with edge of tempered glass. Before installation, examine glass for nicks or chips along edges. If such defects are apparent, do not use this glass.

7.01 Replace those panels which are broken or which will not meet local telephone company standards. Refer to Table A for available panels.

7.02 Booth panels and signs are held in place by four interlocking retaining strips. They are inserted in sequence as shown in Fig. 2. The No. 4 strip is rippled and is held in place by interface friction.

7.03 Replace panels as follows:

(1) Remove No. 4 locking strip.

(2) Remove retaining strips No. 2 and No. 3.

(3) Remove retaining strip No. 1.

(4) Remove panel and rubber glazing strip.

(5) Apply rubber glazing strip to replacement panel.

(6) Insert panel into frame with the beaded edge of retaining strip on the outside.

(7) Replace retaining strips in sequence as shown in Fig. 2.

BOTTOM PANELS

7.04 Replace those panels which are broken or which will not meet local telephone company standards. Refer to Table A for available panels.

7.05 To remove bottom panels, remove Phillips RH screws (eight for short panel and ten for solid panel).

TABLE A

REPLACEMENT PARTS

NAME	PART NO. LIST NO., OR DESCRIPTION		REMARKS		
Actuator Assembly	B-650929		Actuates B-650927 switch assembly		
Angle	B-650824		Support for B-650825 bumper		
Backboard Assembly	B-650829		For coin telephone		
	KS-19425, L25		Use for underground or ground level power entrance. Also use when KS-19426, L17 circuit breaker box is installed.		
Bumper	B-650825		Located in left end of door track as viewed from front of booth		
	B-650826		Located in right end of door track as viewed from front of booth		
	B-684714		Used on left door frame		
Dome Assembly	B-551952		Circular lens and ventilator under light fixture		
Enclosure Assembly	B-685376		Encloses front sign		
Floor	B-650815-1		Tread plate		
	B-650815-2		Abrasive clad plate		
Header Assembly	B-650822				
Lamp	40 Watt-Circline, cool white		Used in KS-19207 light unit		
Leveling Insert Assembly	B-650816-1		Adjustable mounting bracket in rear corner and left front corner		
	B-650816-2		Adjustable mounting bracket in right front corner		
Panels, bottom	KS-19580-	38	Short		
		40	Solid		
Panels, door, side, and rear	KS-19580-	10	Tempered Glass	Side or Rear, small, 7/32-inch thick	
		11		Side or Rear, small, 1/4-inch thick	
		12		Side or Rear, large, 7/32-inch thick	
		13		Side or Rear, large, 1/4-inch thick	
		14		Door, 7/32-inch thick	
		15		Door, 1/4-inch thick	
		32	Aluminum Faced	Side or Rear, small	
		33		Side or Rear, large	
		90	Porcelain Enamel	Side or Rear, large	Blue
		91			Gray
		92			Red

TABLE A (Cont)

REPLACEMENT PARTS

NAME	PART NO. LIST NO., OR DESCRIPTION		REMARKS		
Panels, door, side and rear (Cont)	KS-19580-	93	Porcelain Enamel	Side or Rear, small	Blue
		94			Gray
		95			Red
Panels, Sign		16	Sides or Rear	Aluminum, solid	
		35		Aluminum, louvered	
		72	Front	Blue background, White letter	
		75		White background, Blue letter	
		86		Blue blank	
		87		White blank	
		80	Sides or Rear	Blue background, White letter	
		84		White background, Blue letter	
		88		Blue blank	
		89		White blank	
→ Panel, Sign Blank	KS-19425-	21	For overhead power and telephone entrance		
→ Plug	Shake Proof Corp. No. 207-440401-00-0667		Plug button for plugging light control entrance hole		
Pin Holder Assembly	B-650819		Used with leveling insert assemblies for adjustments		
Roof	B-650855				
Strip, glazing	B-685410-1		Side or rear sign		
	B-685410-2		Side and rear glass panels (large)		
	B-685410-3		Side and rear glass panels (small)		
	B-685410-4		Door panels		
	B-685411-1		Multiple installation panel assembly and power entrance panel		
	B-685411-2		Aluminum or porcelain type panels (large)		
	B-685411-3		Aluminum or porcelain type panels (small)		
	B-685410-5		Front sign		
Strip, retaining	B-685372-1		Top of door panels		
	B-685372-2		Either side of door panels		
	B-685372-3		Bottom of door panels		
	B-685372-4		Either side of large side panels		
	B-685372-5		Locking strip for large side panels		
	B-685372-6		Either side of small side panels		
	B-685372-7		Top of small side panels, large side panels, or side and rear phone signs		

TABLE A (Cont)

REPLACEMENT PARTS

NAME	PART NO. LIST NO., OR DESCRIPTION	REMARKS
Strip, retaining (Cont)	B-685372-8	Locking strip for small side panels
	B-685372-9	Bottom of small side panels, large side panels, or side and rear phone signs
	B-685372-10	Either side of phone signs (front and rear)
	B-685372-11	Locking strip for phone signs
Strip, rubber	B-650854	Adhesive backed roof gaskets*
Switch Assembly	B-650927	Energizes light when door is closed
	B-684779-2	Turns blower motor on and off

* Roof gaskets should be checked for damage each time roof is removed.

8. PHONE SIGNS

8.01 The front sign may be removed as follows:

(a) Remove four self-tapping screws from top edge of frame and the metal retainer which secures the sign.

(b) Slide the sign up and out of the enclosure assembly.

(c) Use reverse procedure for installing.

Roof must be removed before side and rear sign panels can be removed. See Part 14.

8.02 The side and rear signs are removed in the same manner as the side panels (see 7.03 and Fig. 2).

8.03 Replace signs which are broken or which will not meet local telephone company standards. Refer to Table A for available signs.

9. SEAT ASSEMBLY

9.01 Replace those seats (if present) which are broken or which will not meet local telephone company standards. Refer to Section 508-232-200 for installation procedures.

10. SHELF ASSEMBLIES

10.01 Replace those shelves which are broken or which will not meet local telephone company standards. Refer to Section ▶508-232-100 for available shelves,◀ and Section 508-232-200 for installation procedures.

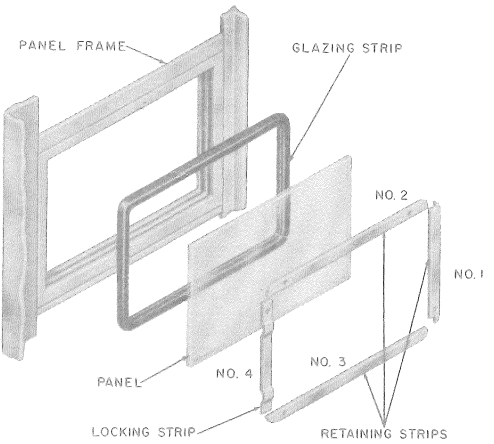


Fig. 2—Assembly of Side or Rear Panels

11. DIRECTORIES AND BINDERS

11.01 Directory binder rods or hinge fasteners shall not be broken or distorted to the extent that directories are not capable of being held securely in the binder. Hinges shall not be so bent, burred, or distorted as to obstruct the free passage of hinge fasteners or prevent smooth operation of covers.

11.02 Binder locking devices shall operate freely and lock securely. Adjustable backplates shall be in good condition.

11.03 Ensure that a rubber bumper is in place on the directory rack/hanger to cushion the binder as it drops into the rack.

- ◊B-685401 for KS-19425, List 16 directory rack
- B-697467 for KS-20030, List 3 directory hanger◊

11.04 Install a new bumper, if required, as follows:

(a) Soften old adhesive with trichloroethane and remove.

(b) Install new bumper using 3M Company EC-880 adhesive or equivalent.

11.05 ◊Refer to Section 508-710-101 for additional information on directories and binders◊

12. PROTECTOR GROUND

12.01 The protector is located in the rear of ceiling area or in some cases it may be located in the wire way below shelf. If the protector is located in the ceiling area, accessibility is obtained by removing roof. See Part 14.

12.02 The booth is equipped with a bonding wire at the protector. Ensure that this wire is secured to the booth and protector.

12.03 If the bonding wire becomes broken, replace with copper or aluminum wire no smaller than No. 14 gauge.

13. FLOOR

13.01 If a booth is equipped with an abrasive-clad floor, the finish can be restored with the use of Goodyear Griptred flooring and protective coating, dark gray 592-7005 or equivalent. This can be applied with an ordinary paint brush.

14. ROOF

14.01 If it becomes necessary to remove the roof, remove 12 No. 8-32 by 5/8 Phillips RH screws and lift off.

14.02 There are four B-650854 adhesive backed rubber strips which are riveted along the booth edge under the roof. Check strips for damage each time roof is removed. Replace strips as necessary.

15. DOOR REQUIREMENTS (See Fig. 3 for Replacement Parts)

15.01 The door shall operate freely and smoothly without squeaking or shattering. The nylon rollers and door track shall be clean of foreign material and the track shall not be gouged, burred, or scored causing rough operation of the door.

15.02 With the booth level, when the door is fully closed manually it shall remain closed until opened manually, and when in the fully closed position the top of the door shall be in alignment with the door frame.

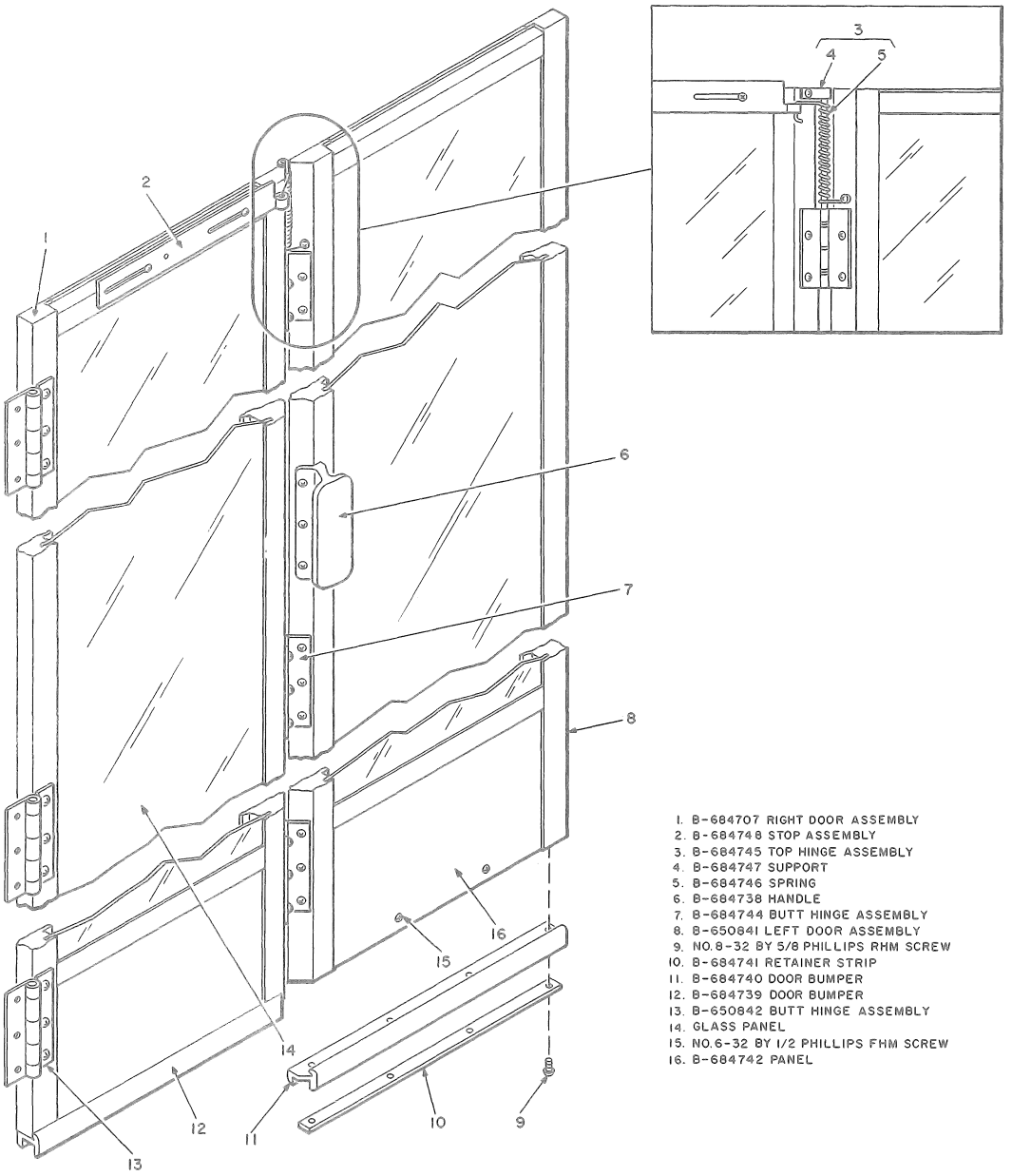
15.03 In outdoor locations, the door shall be held open 2 to 3 inches when in the normal position. Ensure that maximum tension is obtained on spring in center of door (Fig. 3).

15.04 The door actuated switch shall operate as follows when the manual blower switch is on:

(a) With the door fully closed, the blower motor shall run.

(b) With the door in the open position specified in 15.03, the blower motor shall be off.

The door switch shall have no effect on the operation of the booth lamps if the lamps are wired for continuous illumination or automatic light control.



1. B-684707 RIGHT DOOR ASSEMBLY
2. B-684748 STOP ASSEMBLY
3. B-684745 TOP HINGE ASSEMBLY
4. B-684747 SUPPORT
5. B-684746 SPRING
6. B-684738 HANDLE
7. B-684744 BUTT HINGE ASSEMBLY
8. B-650841 LEFT DOOR ASSEMBLY
9. NO.8-32 BY 5/8 PHILLIPS RHM SCREW
10. B-684741 RETAINER STRIP
11. B-684740 DOOR BUMPER
12. B-684739 DOOR BUMPER
13. B-650842 BUTT HINGE ASSEMBLY
14. GLASS PANEL
15. NO.6-32 BY 1/2 PHILLIPS FHM SCREW
16. B-684742 PANEL

Fig. 3—B-684705 Door Assembly

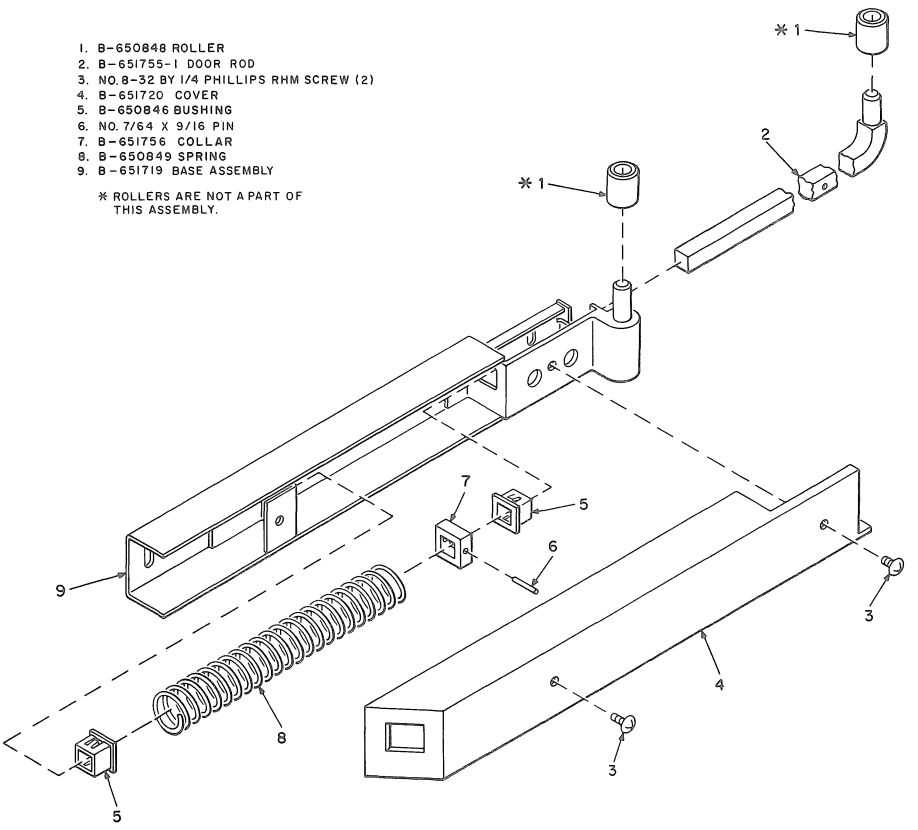


Fig. 4—B-651721-1 Door Guide Assembly

15.05 The open clearance shall be a minimum of 21 inches.

15.06 Rubber bumpers at the bottom of the doors shall not be frayed or torn to expose underlying metal. Screws and retainer strips shall hold bumpers securely.

15.07 Ensure that angle bracket associated with felt bumper in the door track is tight.

16. DOOR MAINTENANCE

16.01 If door hinges squeak, lubricate them at each joint between the barrels with KS-14774, List 2G lubricating grease or equivalent; a KS-14796 oiler may be used.

16.02 Replace glass panels in same manner as side panels (Fig. 2).

16.03 Replace damaged bumpers along bottom of door (Fig. 3).

17. REPLACEMENT PARTS

17.01 The parts listed in Table A are not shown in Fig. 3 or 4 but may be ordered as necessary.

BOOTH—OUTDOOR

KS-14611

IDENTIFICATION AND INSTALLATION

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1. GENERAL

1.01 The KS-14611 booth is rated MD.

1.02 This section is reissued to:

- Make text, illustrations, and tables compatible with latest issue of specification KS-14611
- Change title
- Include information fomerly contained in Section 508-352-200 which is hereby cancelled

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The KS-14611 booth (Fig. 1) is an outdoor aluminum and glass phone booth designed for single installation.

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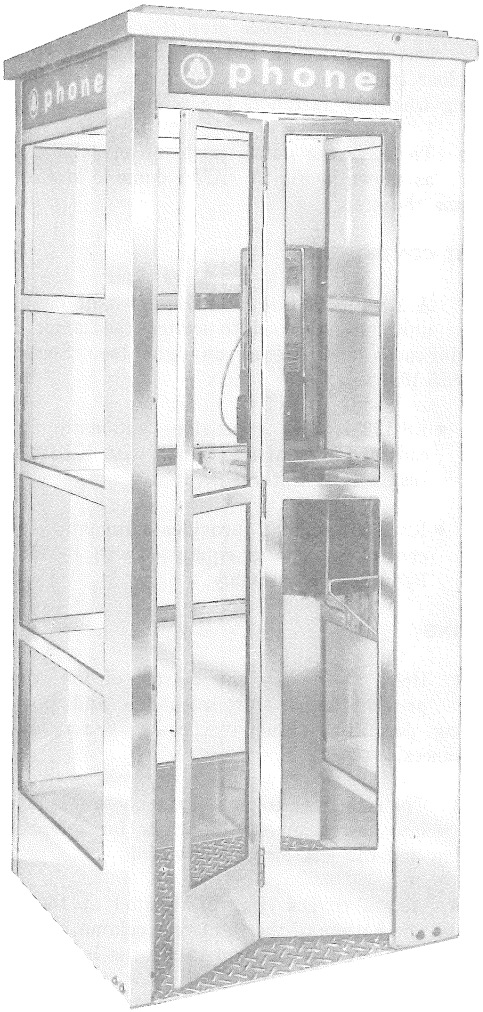

Fig. 1—KS-14611 Booth

1.04 This booth is designed primarily for standup service; however, a KS-19425, List 11 seat assembly can be used if desired.

2. IDENTIFICATION

BASIC BOOTH (Fig. 2)

2.01 Two versions of the basic booth are:

(a) *KS-14611, List 3*

- Satin anodized aluminum
- May be unfinished or finished with one of the following:

  KS-14611, List 60—Red

  KS-14611, List 61—Blue

  KS-14611, List 62—Green

  KS-14611, List 63—Clear

(b) *KS-14611, List 6*

- Polished anodized aluminum
- Not available in any additional finish

2.02 The overall dimensions of the booth are:

- Height—86-1/8 inches
- Width—35-7/16 inches at roof 33-1/2 inches at base
- Depth—35-7/16 inches at roof 33-1/2 inches at base

2.03 The door consists of two vertical sections, each containing two clear safety glass panels. The door is self-closing and folds along the right wall when opened.

DOOR, SIDE, AND REAR PANELS

2.04 Door, side, and rear panels are available as described in Table A.

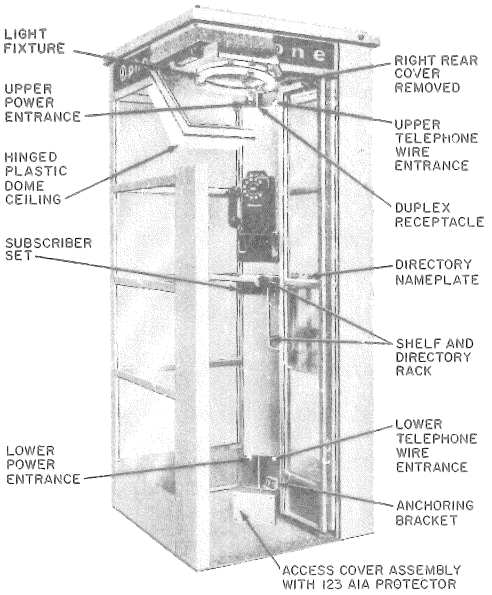

Fig. 2—KS-14611 Booth Showing Individual Features

SIGN PANELS

2.05 Sign panels and blanks are available as described in Table B.

BOTTOM PANELS

2.06 Bottom panels are available as described in Table C.

LIGHT FIXTURE

2.07 The booth and phone signs are illuminated by a KS-19207, List 4 light fixture (see Section 508-820-100). This light fixture replaces the older B-185379 light fixture assembly.

2.08 The ceiling is equipped with a B-185369 plastic dome designed to cover the light fixture and exclude dirt and insects.

DOME STOP

2.09 The KS-20224 dome stop (Fig. 3), a spring loaded device, is designed to mount along the door track (Fig. 4) to prevent the dome from falling when the fasteners are released.

2.10 To lower the dome, push up on dome stop as shown in Fig. 5. After dome is lowered, release the stop.

LIGHT CONTROL UNIT

2.11 A KS-19261, List 1 or List 2 light control unit may be used to switch the lamps on at darkness and off at daylight (see Section 508-825-100).

- KS-19261, List 1 provides automatic light control for booths equipped with KS-19207, List 4 light fixture.
- KS-19261, List 2 provides automatic light control for booths equipped with B-185379 light fixture assembly.

WIRING

2.12 Holes at the top and bottom of the booth provide access for telephone and power wiring, permitting either overhead or underground entrances.

2.13 The right rear column of the booth is divided into two channels; the right for telephone wiring and the left for power wiring.

2.14 Access covers (Fig. 2), located at the top and bottom of the right rear column, provide access to the channels from inside the booth.

2.15 A 123A1A protector is mounted on one of the access covers. The cover with the protector may be mounted at either the top or the bottom. In areas subjected to snow or heavy rainfall, the upper location is recommended.

2.16 This booth is furnished wired for subscriber set and for coin collector/telephone connections.

COIN COLLECTOR/TELEPHONE AND SUBSCRIBER SET

2.17 The right rear corner panel is designed to mount either a 200-type coin collector/telephone

TABLE A

DOOR, SIDE, AND REAR PANELS AND GLAZING STRIPS

SPEC NO.	LIST NO.	DESCRIPTION		LOCATION	GLAZING STRIP
KS-14611	16	Satin Finished Aluminum (List 3 Booth only)		Side or Rear	B-685411-3
	18	Tempered Glass	7/32-in. thk	Door	B-179367-4
	75		1/4-in. thk		
KS-19580	10		7/32-in. thk	Side or Rear	B-685410-3
	11		1/4-in. thk		
	32	Polished Aluminum (List 6 Booth only)			
	93	Porcelain Enamel	Blue		B-685411-3
	94		Gray		
	95		Red		

TABLE B

SIGN PANELS AND GLAZING STRIPS

SPEC NO.	LIST NO.	DESCRIPTION		LOCATION	GLAZING STRIP
		LETTERS	BACKGROUND		
KS-14611	101	White	Blue	Front	B-179367-1
	102	Blue	White		
	105	None	White		
	106	None	Blue		
	103	White	Blue	Rear and Sides	B-179367-2
	104	Blue	White		
	107	None	White		
	108	None	Blue		
	35	Solid Aluminum Blank			

TABLE C

BOTTOM PANELS

SPEC NO.	LIST NO.	DESCRIPTION		REMARKS
KS-14611	52	Rear	Solid	For use in List 3 Booth
	53	Side		
	54	Rear	Short	
	55	Side		
KS-19580	38	Side	Short	For use in List 6 Booth
	39	Rear		
	40	Side	Solid	
	41	Rear		

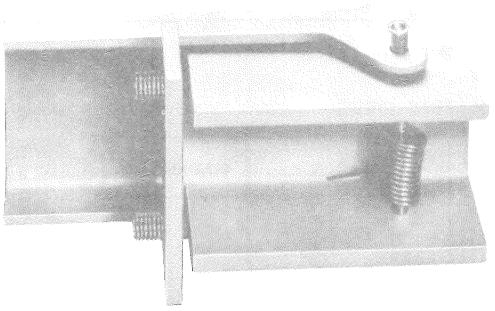

Fig. 3—KS-20224 Dome Stop

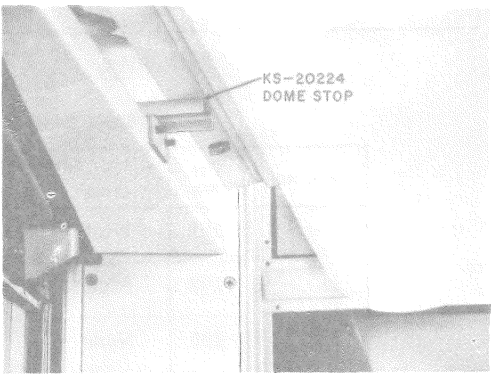

Fig. 4—KS-20224 Dome Stop Installed

or a 1A-type coin telephone. No additional backboard is necessary.

2.18 If a subscriber set is required, a hinged mounting bracket for this purpose is located under the corner shelf. (Fig. 6).

FLOOR

2.19 The KS-14611 booth is equipped with a B-182718-1 aluminum treadplate floor.

2.20 Four adjustable brackets (Fig. 7) are provided to permit leveling and anchoring.

SHELF AND DIRECTORY ARRANGEMENTS

2.21 Shelf assemblies, directory racks, and associated apparatus are listed in Table D and shown in Fig. 8 through 10.

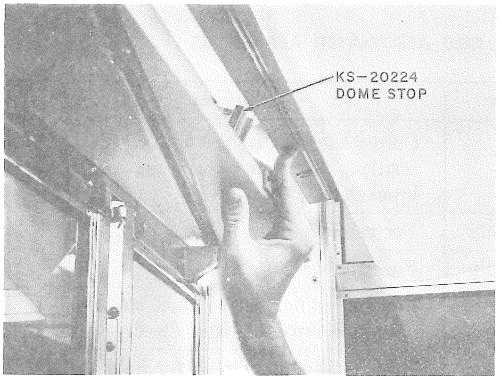

Fig. 5—Releasing Dome Stop

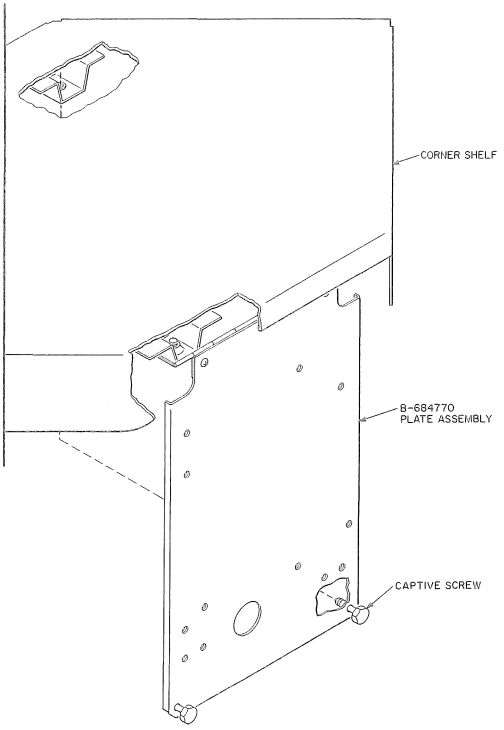

Fig. 6—Subscriber Set Mounting Bracket

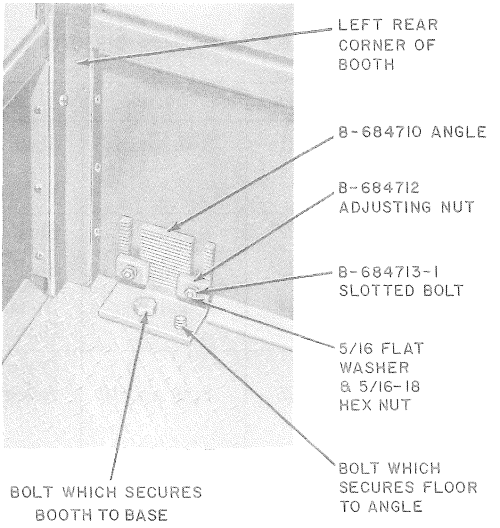

Fig. 7—Booth Anchoring Bracket

SEAT

2.22 A KS-19425, List 11 seat assembly (Fig. 11) may be used if desired.

2.23 A KS-19425, List 12 mounting plate (Fig. 11) must be used for mounting the seat.

CARD FRAME

2.24 A KS-19928, List 2 card frame is used in this booth. Refer to Section 508-811-100 for complete information on the card frame.

POWER CORD ASSEMBLIES

2.25 KS-19580, List 30 power cord assembly (Fig. 12) is available for overhead power.

2.26 KS-19580, List 31 power cord group (Fig. 13) is available for ground level power.

3. INSTALLATION

3.01 Booth location should be:

- Within full view of public

TABLE D

SHELF ASSEMBLIES, DIRECTORY RACKS, AND ASSOCIATED APPARATUS

SPEC NO.	LIST NO.	FIG. NO.	DESCRIPTION	REMARKS
KS-19580	21	8, 9, and 10	Shelf	Corner shelf. Furnished with all KS-14611 booths. Contains sub set mounting bracket (Fig. 6).
	22	8 and 10	Shelf Assembly	For use on rear wall
	23	9 and 10	Shelf Assembly	For use on right wall
	24	8 and 10	Apparatus Blank	For extending writing shelf surface over unused compartment of directory rack.
	25	8, 9, and 10	Directory Rack Assembly	Two-compartment rack for holding OD-type directory binders. Each compartment capable of holding one 3-inch binder.
	26		Nameplate Blank Assembly	3/4 by 2-3/4 hard brass. Used to mount on rear of directory compartment rack for placing directory information.
	27		Nameplate Blank Assembly	3/4 by 1-3/8 hard brass. Used to mount on rear of directory compartment rack for placing directory information.

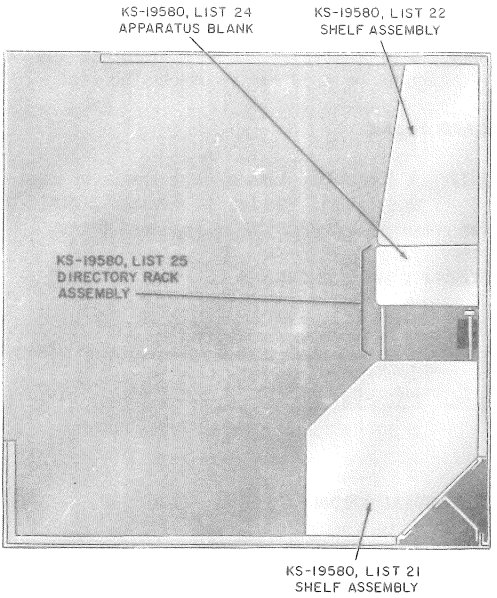

Fig. 8—Rear Wall Shelf Arrangement

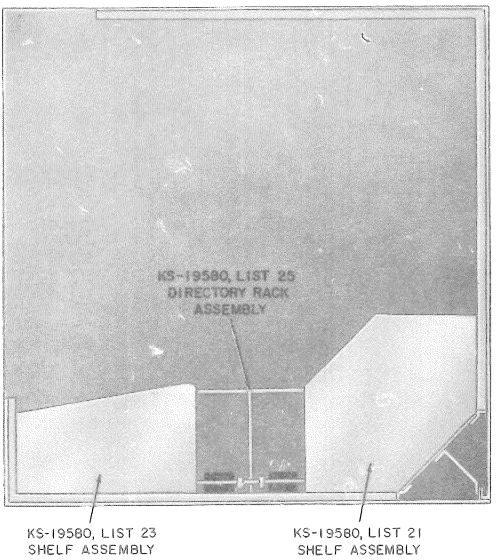

Fig. 9—Right Wall Shelf Arrangement

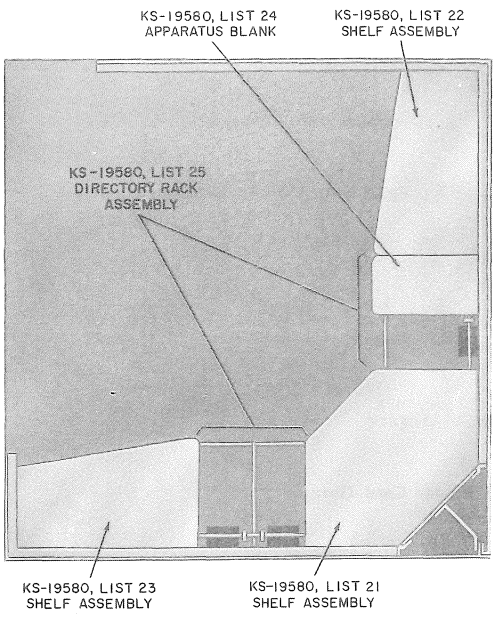

Fig. 10—Combination Shelf Arrangement

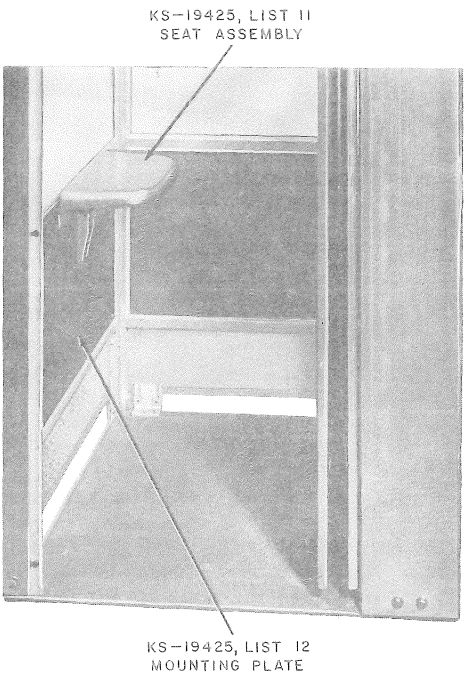

Fig. 11—KS-19425, List 11 Seat Assembly With KS-19425, List 12 Mounting Plate

- Readily accessible to customer
- Free of such hazards as broken or uneven pavements
- Spaced with a minimum clearance of 6 inches from property lines and buildings
- Placed with as little step-up as possible and still maintaining proper drainage

3.02 The KS-14611 booth requires anchoring at all installations.

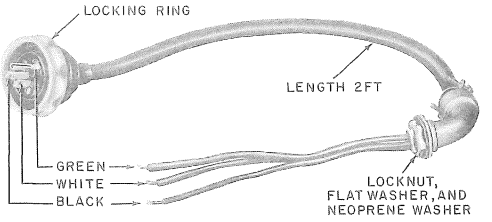

Fig. 12—KS-19580, List 30 Power Cord Assembly

FOUNDATION TEMPLATE

3.03 When necessary to provide a concrete base, a KS-19580, List 28 foundation template (Fig. 14) is used. Install the template as follows:

(a) Prepare a form 40 inches square with an inside depth of 10 inches (Fig. 15).

(b) Tamp 6 inches of cinders or gravel in the bottom of form.

(c) Position the template in the form on wooden blocks so that the top of four mounting inserts will be flush with concrete base as shown in Fig. 15.

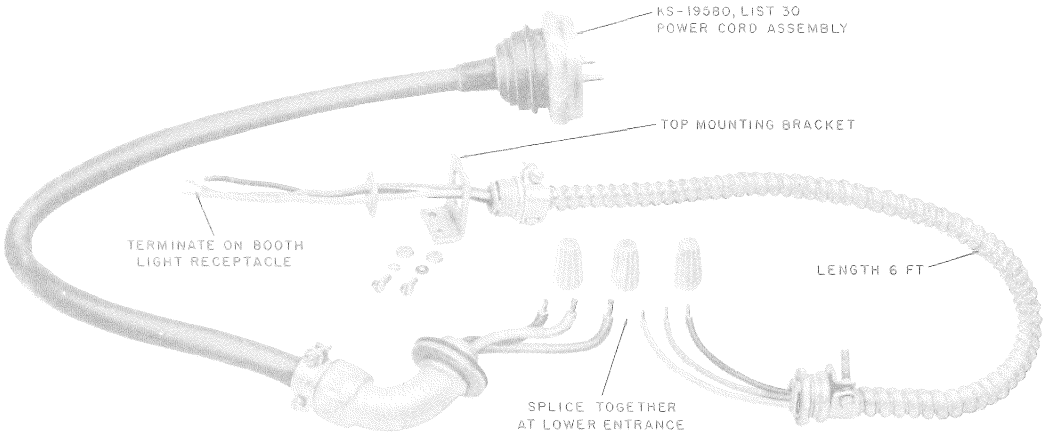

Fig. 13—KS-19580, List 31 Power Cord Group

Nail holes are provided in the four corners of the template for fastening the wooden blocks. Use the blocks to level and support the template at the proper height.

(d) If underground power and telephone wires are to be used, provide for holes in the concrete base at the positions of corresponding holes in the template.

Do not remove screw plugs from booth mounting inserts until booth is installed. Their sole purpose is to prevent dirt from filling mounting holes.

(e) Pour concrete around the template to fill the form.

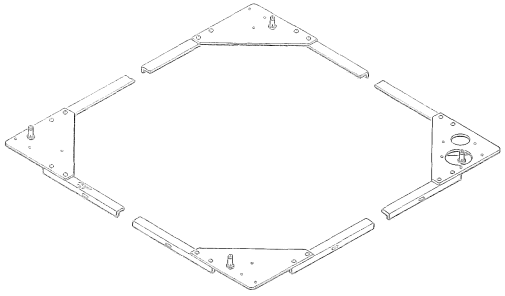

Fig. 14—KS-19580, List 28 Foundation Template

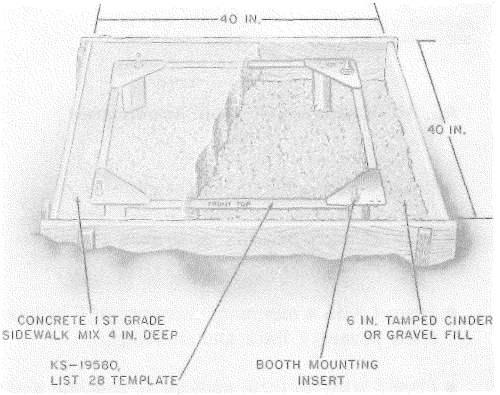

Fig. 15—Concrete Base Preparation With KS-19580, List 28 Template

3.04 Secure booth as follows:

(a) If a KS-19580, List 28 foundation template is used, remove insert plugs from template and secure anchor brackets (Fig. 7) of booth to template using four 3/8-16 by 1-1/4 hex head bolts, four 3/8-inch lockwashers and four 3/8-inch flatwashers.

(b) If a KS-19580, List 28 foundation template is not used, and the booth is to be mounted on concrete, perform the following operations:

(1) Mark the locatons for four mounting holes.

(2) Drill the four holes to accept masonry fasteners for 3/8-16 by 1-1/4 bolts.

(3) Install the masonry fasteners. See Section on Masonry Fasteners.

(4) Secure anchor brackets of booth to masonry fasteners using four 3/8-16 by 1-1/4 hex head bolts, four 3/8-inch lockwashers, and four 3/8-inch flatwashers.

(c) If booth is to be mounted on a wooden floor, perform the following operations:

(1) Mark the location for four mounting holes.

(2) Drill four lead holes to accommodate 5/16 by 2-1/2-inch lag screws.

(3) Secure booth to floor using the four 5/16 by 2-1/2 inch lag screws, four 5/16-inch lockwashers, and four 5/16-inch flatwashers.

(d) Adjust the anchor brackets (Fig. 7) if necessary, and ensure that the booth is level.

DOOR REQUIREMENTS

3.05 After anchoring and leveling booth, check door for the following:

(a) Door remains open 2 to 3 inches when it is at normal position.

(b) When pushed closed from inside, the door should remain completely closed.

(c) A pull on the handle should open and restore the door to normal position.

(d) See Section 508-352-300 for door adjustment.

TELEPHONE WIRING

Aerial wire spans fastened to booth should not exceed 25 feet.

First Attachment

3.06 Attach drop wire hook (Fig. 16) or corner bracket (Fig. 17) (whichever is required) on right rear column adjacent to the entrance hole as follows:

A. Drop Wire Hook

(1) Secure drop wire hook to clinch nut (provided with booth) using one 1/4-20 by 3/4 FHM screw, one 1/4-inch flatwasher and one 1/4-inch lockwasher.

B. Corner Bracket

(1) Secure the corner bracket to the threaded clinch nut using one 1/4-20 by 3/4 Phillips RHM screw.

(2) Using the bracket as a template, drill a clearance hole for another 1/4-inch screw.

(3) Further secure the bracket to the booth using one 1/4-20 by 3/4 Phillips RHM screw, one 1/4-inch flatwasher, one 1/4-inch lockwasher, and one 1/4-inch hex nut.

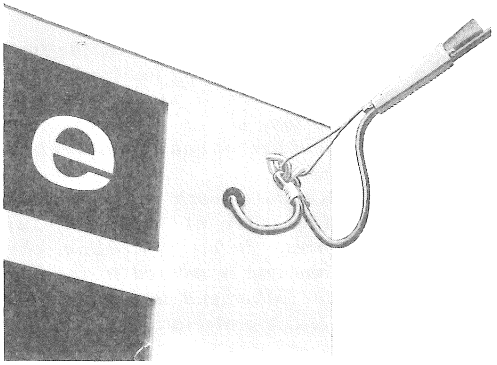

Fig. 16—Drop Wire Hook for First Attachment

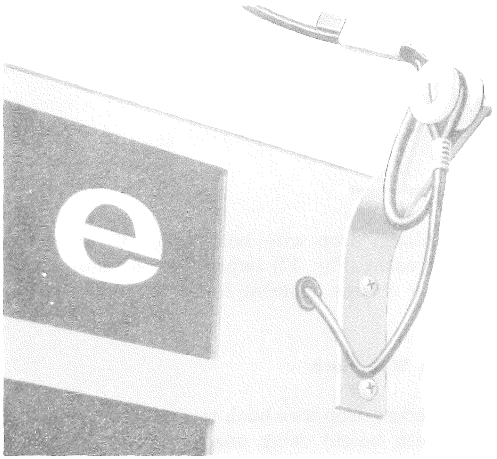

Fig. 17—Corner Bracket for First Attachment

Drop Wire

3.07 Telephone wire entrance holes are located in the following locations.

- Top of right-rear column
- Bottom of right-rear column
- Through metallic conduit to holes provided in the right-rear corner of the booth floor.

3.08 Feed drop wire through entrance hole and terminate on 123A1A station protector.

The protector is located in the top of the right-rear corner behind an access cover; however, it may be moved to the bottom of the right-rear corner if ground level or underground entrance is used.

The KS-14611 booth is equipped with bonding wires at both drop wire entrances. Before proceeding, check that one end is secured to the booth and the other end is terminated on the 123A1A protector.

COIN STATION CONNECTIONS

3.09 Station connection wires are furnished as shown in Fig. 18. Complete connections are covered in sections entitled Coin Collectors, Connections, and sections entitled Subscriber Sets, Connections.

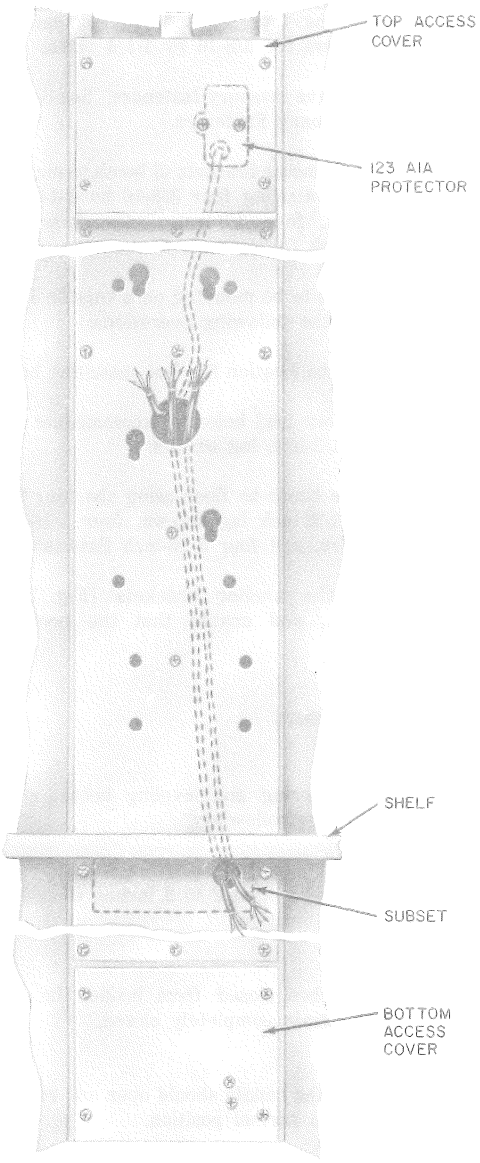

Fig. 18—Station Wiring

ELECTRICAL WIRING AND GROUNDING

3.10 Electrical wiring and grounding of the booth is covered in Section 508-100-100.

Wiring

3.11 Power wire entrance holes are located in the following locations:

- Top of right-rear column
- Bottom of right-rear column
- Through metallic conduit to holes provided in the right-rear corner of the booth floor.

3.12 For overhead entrance with plug-in features, use KS-19580, List 30 power cord assembly and install per Fig. 19.

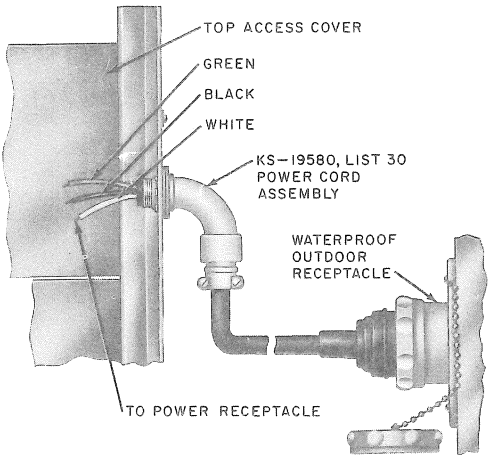

Fig. 19—KS-19580, List 30 Power Cord Assembly Overhead Entrance

3.13 For ground level entrance with plug-in features, use KS-19580, List 31 power cord group and install per Fig. 20.

Grounding

3.14 Ensure that the ground terminal of the station protector is connected to the booth

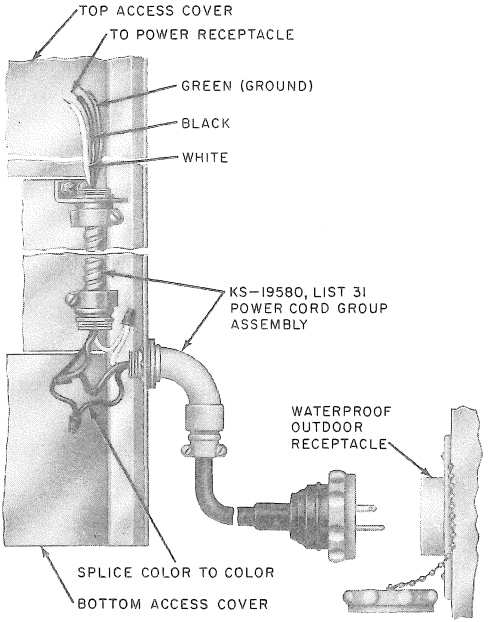

Fig. 20—KS-19580, List 31 Cable and Cord Group for Ground Level Entrance

with bonding wire provided. If bonding wire becomes broken or damaged, use a suitable wire no less than No. 14 AWG.

DIRECTORY RACK AND SHELF ASSEMBLIES

KS-19580, List 21 Shelf Assembly (Fig. 8, 9 and 10)

3.15 Secure with four No. 10-32 by 1/2 Phillips FHM screws and four No. 10 CKS washers.

KS-19580, List 22 Shelf Assembly (Fig. 8 and 10)

3.16 Install with four No. 10-32 by 1/2 Phillips FHM screws and four No. 10 CSK washers.

KS-19580, List 23 Shelf Assembly (Fig. 9 and 10)

3.17 Install with four No. 10-32 by 1/2 Phillips FHM screws and four No. 10 CSK washers.

KS-19580, List 25 Directory Rack (Fig. 8, 9 and 10)

3.18 Install with four No. 10-32 by 1/2 Phillips RHM screws, two No. 10-32 by 1/2 Phillips FHM screws, two No. 10 flatwashers, and two No. 10 lockwashers.

KS-19580, List 24 Apparatus Blank (Fig 8 and 10)

3.19 Install with two No. 10-32 by 5/8 Phillips RHM screws, four No. 10 fiber washers, and two No. 10 elastic stop nuts.

- Hardware furnished with apparatus blank.

KS-19580, List 26 Nameplate Blank Assembly (3/4 by 2-3/4 inches)

3.20 Insert pins through two outer holes at top of directory rack.

3.21 Bend pins on back side of directory rack.

KS-19580, List 27 Nameplate Blank Assembly (3/4 by 1-3/8 inches)

3.22 Insert one pin through one of the outer holes and the other pin through center slot at top of directory rack.

3.23 Bend pins on back side of directory rack.

SEAT ASSEMBLY

3.24 Install KS-19425, List 12 mounting plate as follows:

(a) Install the mounting plate in the same manner as a standard glass panel in the bottom position on the left side of the booth.

(b) Install a B-650894 clip (furnished with seat assembly) on each corner of the List 12 mounting plate, using four No. 8-32 by 3/8 SEMS RHM screws.

Install the clips on the inside of the booth. Their purpose is to prevent the removal of retaining strips.

3.25 Install the seat assembly on the upper portion of the mounting plate using the following items (furnished with seat assembly) and install in the sequence listed.

- Four 1/4-20 by 1-1/8 carriage bolts (install with heads on outside of booth)
- Four B-650893 spacers
- Seat assembly
- Two 1/4-inch flatwashers (front and rear bolts)
- Four 1/4-inch lockwashers
- Four 1/4-20 cap nuts

KS-19580 BOOTH (OUTDOOR)
IDENTIFICATION

1. GENERAL

1.01 This section is reissued to:

- Change signs
- Revise tables

Since this reissue covers a general revision arrows ordinarily used to indicate changes have been omitted.

1.02 The KS-19580 booth (Fig. 1) is an outdoor aluminum and glass telephone booth designed for single or multiple side-by-side installations.

1.03 This booth is designed primarily for standup service; however, the KS-19425, List 11 seat assembly can be used if desired.

2. IDENTIFICATION

2.01 Various list numbers have been assigned the KS-19580 booth components. Table A describes the basic list numbers. Two finishes are available; List 60—polished aluminum and List 61—gold.

2.02 The overall dimensions of the booth are:

- Height—83-1/8 inches (less rain bead)
- Width—33-1/2 inches
- Depth—33-1/2 inches (front sign projects 1-1/2 inches beyond this dimension)

2.03 The door consists of two vertical sections, each mounting a full length safety glass panel. It is self-closing and folds along the right wall when opened.

2.04 A rubber bumper (B-684739 for right door or B-684740 for left door) is mounted on the bottom edge of the door to guard against shoe scuffing.

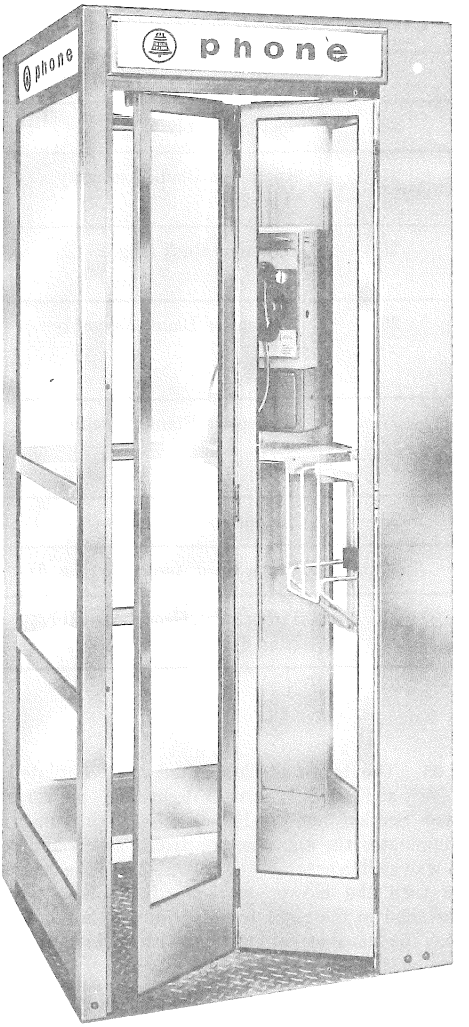

Fig. 1—KS-19580 Booth (Outdoor)

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TABLE A

BASIC LIST NUMBERS

KS-19580 LIST NO.	DESCRIPTION	REMARKS
1	Telephone Booth Assembly (Fig. 1)	For outdoor service
21	Shelf Assembly (Fig. 2)	Right rear corner (includes subset bracket) (Fig. 3)
22	Shelf Assembly (Fig. 2)	Rear
24	Apparatus Blank Assembly (Fig. 2)	Extends writing shelf surface where only one compartment of directory rack is used
25	Directory Rack (Fig. 2)	Two-compartment rack; each large enough to accommodate one 3-inch binder
26	Nameplate Blank Assembly	3/4 by 2-3/4 hard brass. Used to mount on rear of directory compartment rack for placing directory information
27	Nameplate Blank Assembly	3/4 by 1-3/8 hard brass. Used to mount on rear of directory compartment rack for placing directory information
28	Foundation Template (Fig. 4)	Used in concrete base for securing booth
30	Power Cord Assembly (Fig. 5)	For overhead power
31	Power Cord Group Assembly (Fig. 6)	For underground or ground level power

2.05 The booth is illuminated and ventilated by a KS-19207, List 3 light and blower unit (see Section 508-820-100). This light unit also illuminates the signs on the front, sides, and rear. A wall switch assembly (B-650921-2) for the customer to turn the blower on and off at will may be installed in the right front corner of the booth. It may be used in conjunction with a door operated switch assembly (B-650927).

2.06 If no ventilation is required, a KS-19207, List 7 light fixture may be ordered.

2.07 A KS-19261, List 1 light control unit may be used to switch the light on at darkness and off at daylight (see Section 508-825-100). The light cell is mounted near the top of the right front column and automatically causes the lamps to illuminate when exposed to a light level of less than three foot-candles. The lamps will be extinguished at a light level of approximately ten foot-candles.

One KS-19261 light control unit may be used to control the lights in multiple installations of five or less booths.

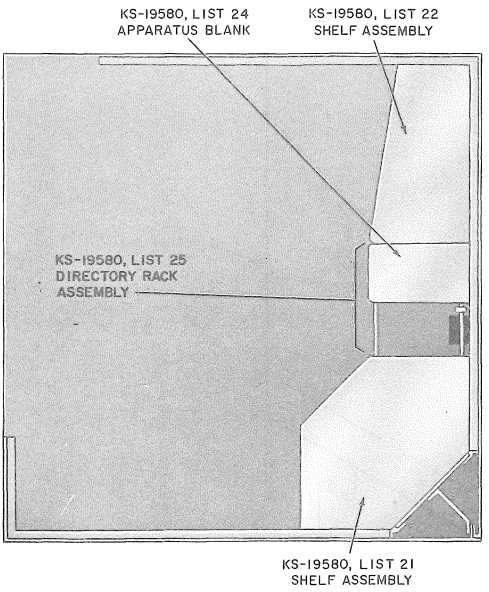

Fig. 2—Rear Wall Shelf Arrangement

2.08 In multiple installations, a KS-19580, List 51 receptacle assembly (Fig. 7) must be used in conjunction with a KS-19261 light control unit as follows:

(a) One receptacle is required for ***each multiple installation*** where KS-19207, ***List 7*** light fixtures are used.

(b) One receptacle is required for ***each booth*** in a multiple installation where KS-19207, ***List 3*** light and blower units are used.

2.09 A translucent sign framed in aluminum, is mounted over the door and projects 1-1/2 inches beyond the front of the booth (Fig. 1). Refer to Table B for available signs.

2.10 Translucent signs are mounted along the roof line on sides and rear; however, a KS-19580, List 16 solid aluminum panel or KS-19580, List 35 louvered aluminum panel may be substituted. Refer to Table B for available signs and panels.

2.11 An air intake opening is provided in the underside of the front sign frame and is equipped with screening to exclude insects.

TABLE B
SIGN PANELS

KS-19580 LIST NO.	LETTERS	BACKGROUND	REMARKS
16		Aluminum Solid Panel	Used on sides or rear in place of telephone sign
35		Aluminum Louvered Panel	
72	White	Blue	Front sign only
75	Blue	White	
86		Blue	
87		White	
80	White	Blue	Rear and sides only
84	Blue	White	
88		Blue	
89		White	

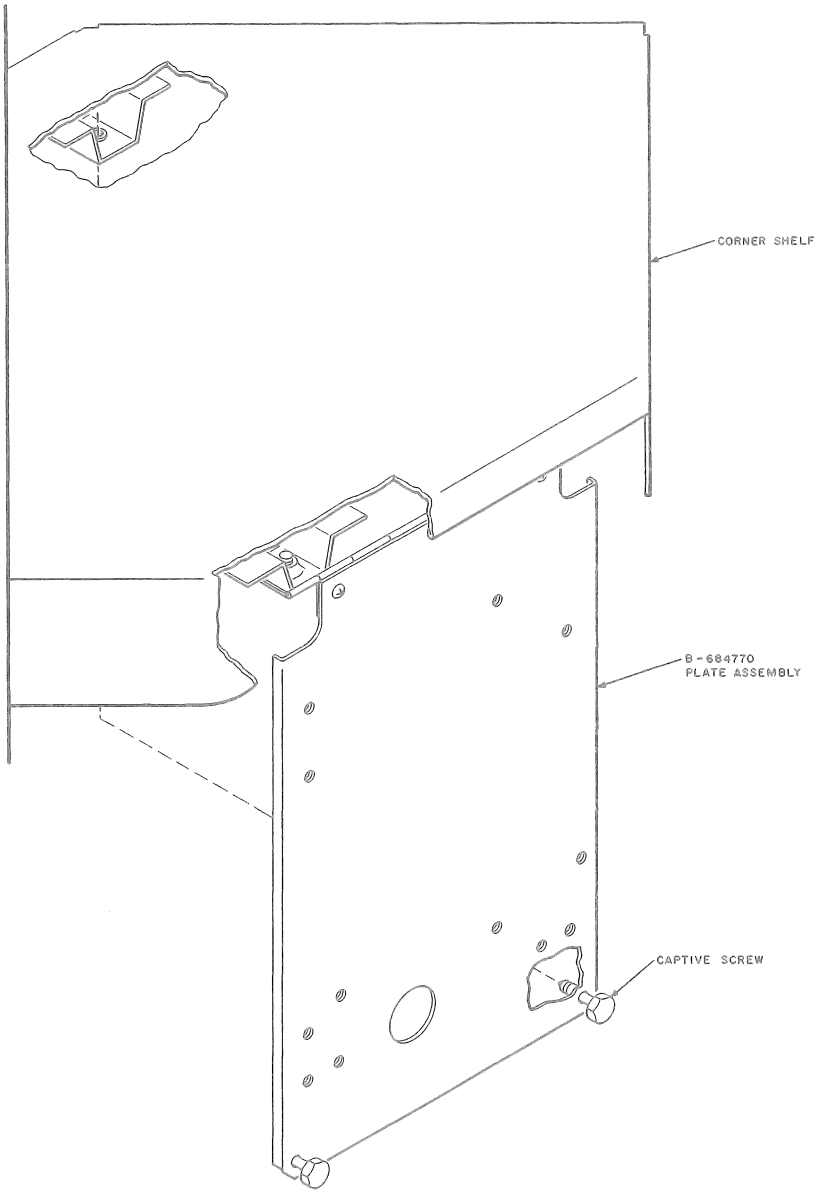

Fig. 3—Subscriber Set Mounting Bracket

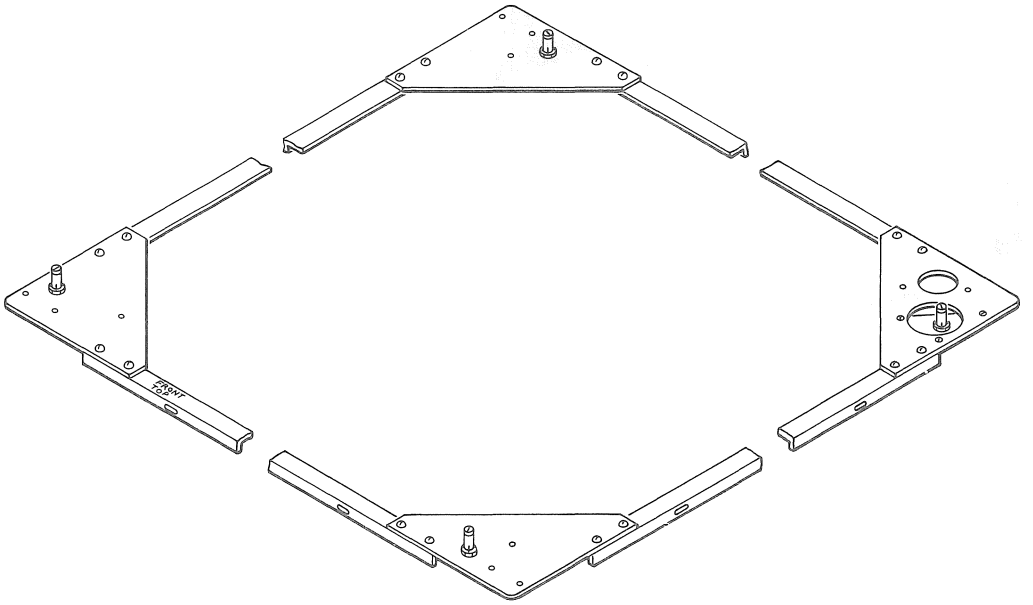

Fig. 4—KS-19580, List 28 Foundation Template

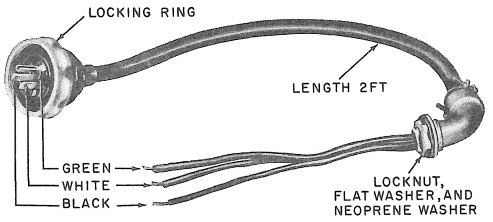

Fig. 5—KS-19580 List 30 Power Cord Assembly

2.12 A 123A1A protector is mounted above the ceiling behind the top access cover in the right rear corner. This protector may also be mounted on the corner access plate at the bottom of the booth if underground entrance is desired.

2.13 An electrical outlet box is mounted above the ceiling in the right rear corner.

2.14 An aluminum tread floor is furnished, but the booth may be equipped with an abrasive-clad floor when ordered.

2.15 The booth is furnished wired for subscriber set and coin telephone connections. No backboard is required for mounting the coin telephone since the right rear corner panel of the booth serves this purpose.

2.16 Tables C and D contain panel information.

2.17 Adjustable mounting angles are provided to facilitate booth leveling up to 3 inches (see Fig. 8). One of the angles is furnished with rear panel as shown in Table D.

2.18 A KS-19580, List 20 multiple kit (Fig. 9) is available for side-by-side multiple assemblies. It consists of the following:

- 2 KS-19580, List 17 Multiple Sign Blanks
- 2 KS-19580, List 18 Frames (small)
- 1 KS-19580, List 19 Frame (large)
- Necessary Hardware

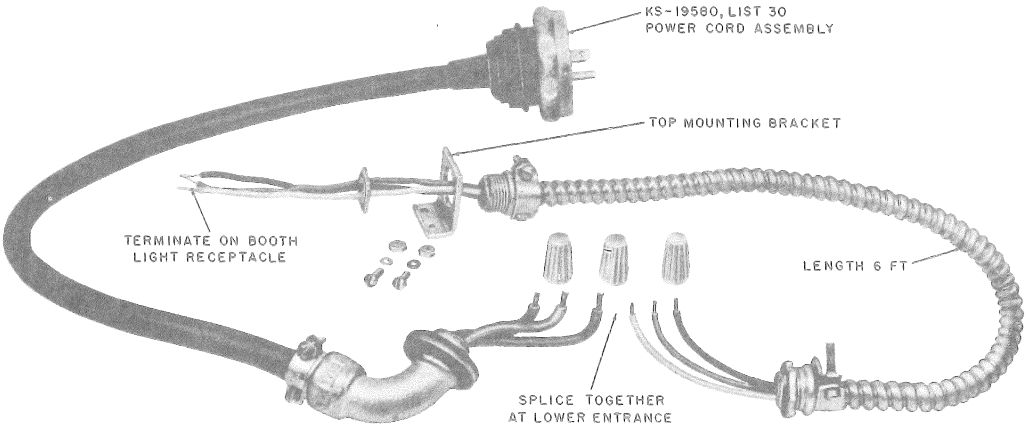

Fig. 6—KS-19580, List 31 Power Cord Group

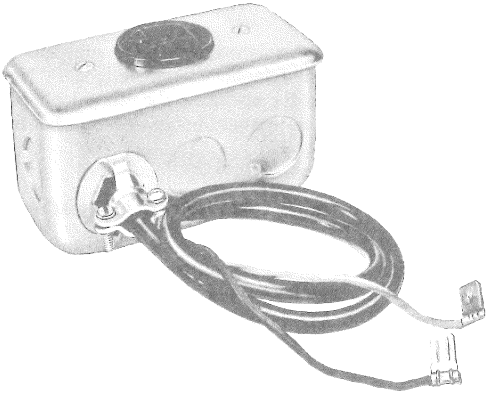

Fig. 7—KS-19580, List 51 Receptacle Assembly

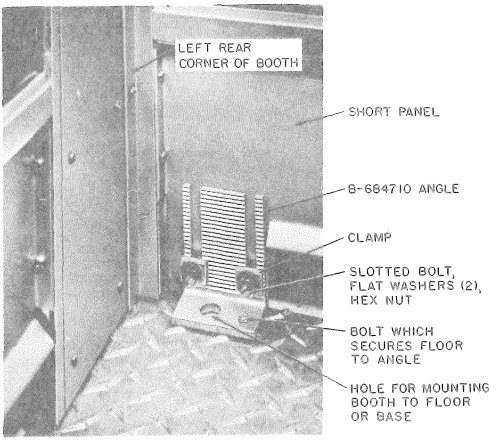

Fig. 8—Anchoring and Leveling Device

TABLE C
DOOR, SIDE, AND REAR PANELS

KS-19580 LIST NO.	DESCRIPTION	REMARKS	
10	Tempered Glass Panel	7/32-inch thick small side panel	
11		1/4-inch thick small side panel	
12		7/32-inch thick large side panel	
13		1/4-inch thick large side panel	
14		7/32-inch thick door panel	
15		1/4-inch thick door panel	
32	Aluminum Faced Panel	Small	
33		Large	
90	Porcelain Enamel	Large	Blue
91			Gray
92			Red
93		Small	Blue
94			Gray
95			Red

TABLE D
BOTTOM PANELS

KS-19580 LIST NO.	DESCRIPTION	REMARKS
38	Right side	Short
39	Rear	Short with tie down angle
40	Right side	Solid
41	Rear	Solid with tie down angle
49	Left side	Solid
50	Left side	Short

3. ORDERING INFORMATION

3.01 A standard booth is available which can be ordered as a KS-19580, List 1 booth without specifying additional list numbers. It has a List 60 finish and is equipped as follows:

1—KS-19580, List 72 Sign Panel

3—KS-19580, List 80 Sign Panels

3—KS-19580, List 12 Large Side Panels

2—KS-19580, List 14 Glass Door Panels

6—KS-19580, List 10 Small Side Panels

1—KS-19580, List 38 Bottom Panel

1—KS-19580, List 39 Bottom Panel

1—KS-19580, List 50 Bottom Panel

1—KS-19580, List 21 Shelf Assembly

1—KS-19580, List 22 Shelf Assembly

1—KS-19580, List 25 Directory Rack Assembly

1—KS-19207, List 3 Light and Blower Unit

3.02 The following are examples of typical orders.

Example 1:

1—KS-19580, List 1 Telephone Booth

Example 2:

2—KS-19580, List 1 Telephone Booths with List 61 finish consisting of:

1—KS-19580, List 20 Multiple Kit with KS-19580, List 61 Finish

2—KS-19580, List 75 Sign Panels

4—KS-19580, List 84 Sign Panels

5—KS-19580, List 12 Large Side Panels

5—KS-19580, List 10 Small Side Panels

5—KS-19580, List 93 Small Porcelain Enamel Panels

4—KS-19580, List 14 Glass Door Panels

2—KS-19580, List 40 Bottom Panels with List 61 Finish

2—KS-19580, List 41 Bottom Panels with List 61 Finish

2—KS-19580, List 49 Bottom Panels with List 61 Finish

1—KS-19261, List 1 Light Control

2—KS-19580, List 51 Receptacle Assemblies

2—KS-19425, List 22 Cable Assemblies

1—KS-19580, List 30 Power Cord Assembly

2—KS-19580, List 21 Shelf Assemblies

2—KS-19580, List 25 Directory Rack Assemblies

2—KS-19580, List 28 Foundation Templates

2—KS-19207, List 7 Light Fixtures

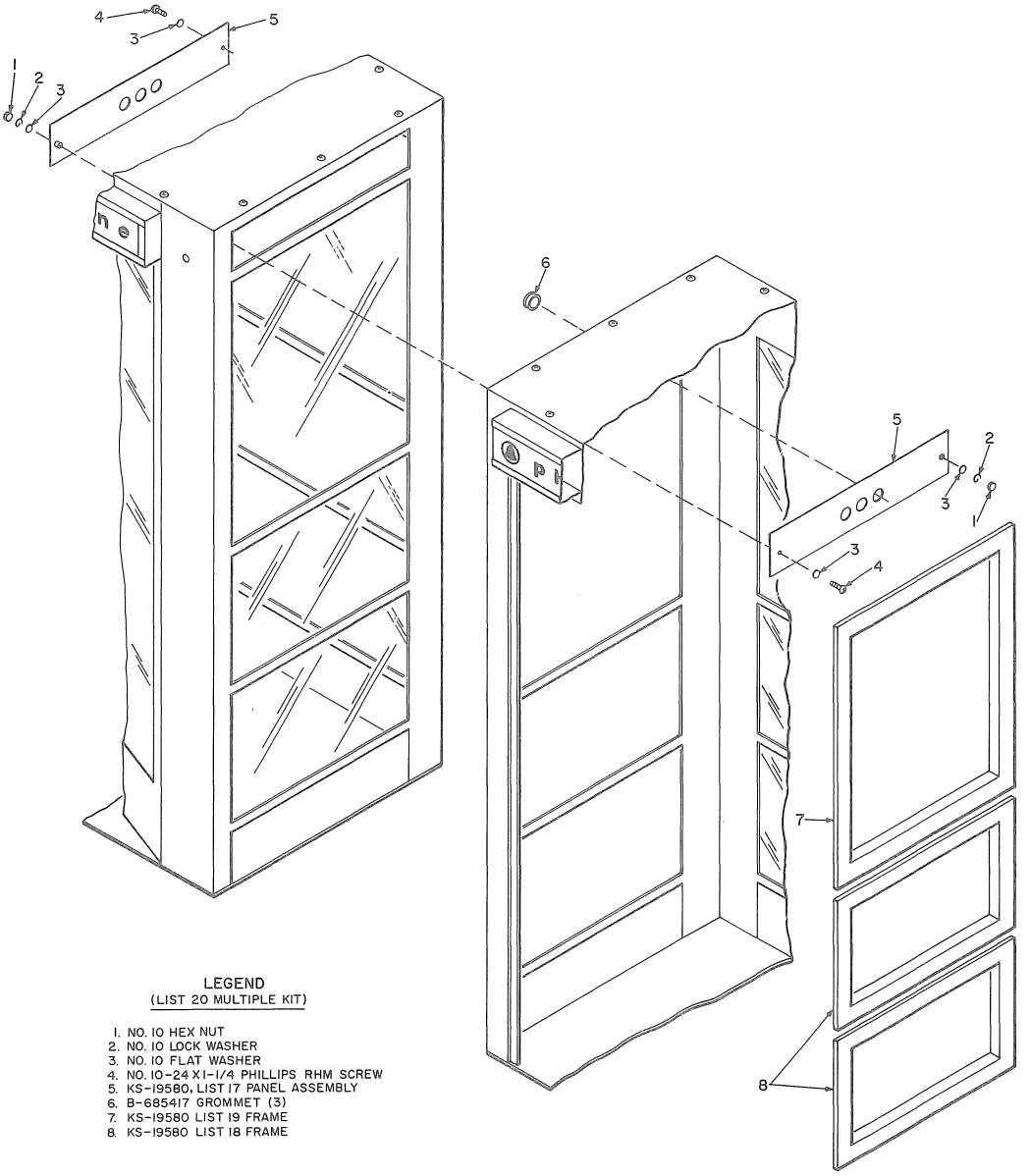
LEGEND
(LIST 20 MULTIPLE KIT)
1. NO. 10 HEX NUT
2. NO. 10 LOCK WASHER
3. NO. 10 FLAT WASHER
4. NO. 10-24 X 1-1/4 PHILLIPS RHM SCREW
5. KS-19580, LIST 17 PANEL ASSEMBLY
6. B-685417 GROMMET (3)
7. KS-19580 LIST 19 FRAME
8. KS-19580 LIST 18 FRAME

Fig. 9—KS-19580, List 20 Multiple Kit

KS-19580 BOOTH (OUTDOOR)
INSTALLATION

1. GENERAL

1.01 This section is reissued to revise illustrations to include new phone signs.

1.02 The overall dimensions of the booth (Fig. 1) are:

- Height—83-1/8 inches
- Width—33-1/2 inches
- Depth—33-1/2 inches (front sign projects 1-1/2 inches beyond this dimension)

2. INSTALLATION OF BASIC BOOTH

2.01 Booth location should be:

- Within full view of public
- Readily accessible to customer
- Free of such hazards as broken or uneven pavements
- Spaced with a minimum clearance of 6 inches from property lines and buildings
- Placed with as little step-up as possible and still maintaining proper drainage.

2.02 The KS-19580 booth requires anchoring at all installations.

INSTALLATION OF FOUNDATION TEMPLATE

2.03 When necessary to provide a concrete base, a KS-19580, List 28 foundation template is used. See Section 508-354-100. Install the template as follows:

(a) Prepare a form 40 inches square with an inside depth of 10 inches (Fig. 2).

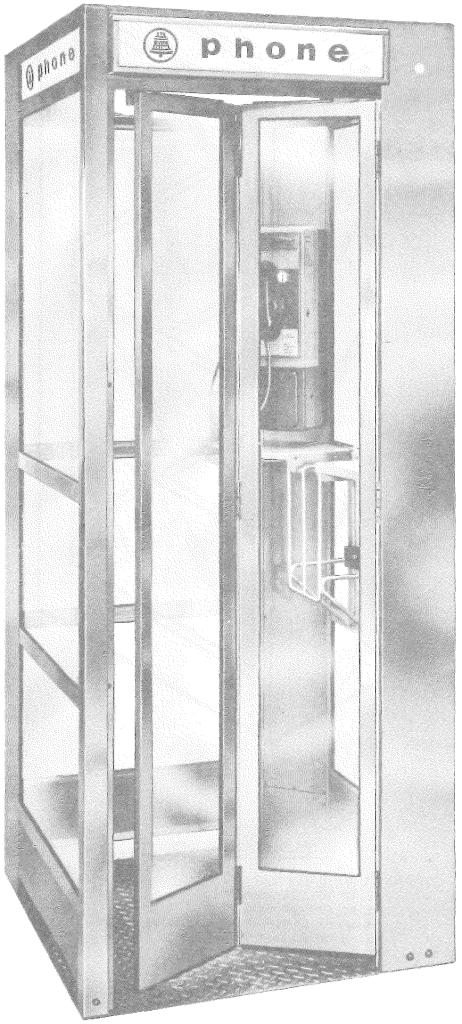

Fig. 1—KS-19580 Booth (Outdoor)

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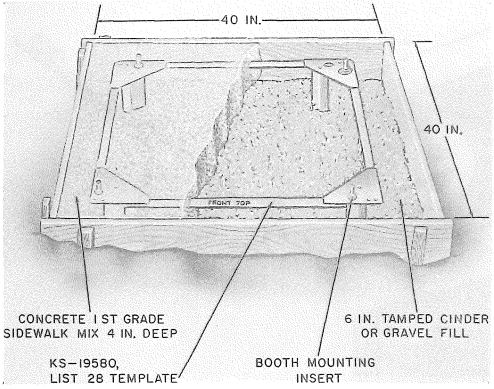

40 IN.
40 IN.
FRONT TOP
CONCRETE 1 ST GRADE SIDEWALK MIX 4 IN. DEEP
6 IN. TAMPED CINDER OR GRAVEL FILL
KS-19580, LIST 28 TEMPLATE
BOOTH MOUNTING INSERT

Fig. 2—Concrete Base Preparation with KS-19580, List 28 Template

(b) Tamp 6 inches of cinders or gravel in the bottom of form.

(c) Position the template in the form on wooden blocks so that the top of four mounting inserts will be flush with concrete base as shown in Fig. 2.

Nail holes are provided in the four corners of the template for fastening the wooden blocks. Use the blocks to level and support the template at the proper height.

(d) If underground power and telephone wires are to be used, provide for holes in the concrete base at the positions of corresponding holes in the template.

Do not remove screw plugs from booth mounting inserts until booth is installed. Their sole purpose is to prevent dirt from filling mounting holes.

(e) Pour concrete around the template to fill the form.

(f) For multiple booth installations, where no separation between booths is required, fasten adjacent templates together with two No. 10-32 by 1/2 RHM screws and two No. 10 hex nuts.

(g) For multiple booth installations, where separation of booths is required, fasten adjacent templates together with steel straps and No. 8 sheet metal screws.

(h) For each additional booth, lengthen the form by approximately 33-1/2 inches.

2.04 Secure booth as follows:

(a) If a KS-19580, List 28 foundation template is used, remove insert plugs from template and secure anchor brackets (Fig. 3) of booth to template using four 3/8-16 by 1-1/4 hex head bolts, four 3/8-inch lockwashers and four 3/8-inch flatwashers.

(b) If a KS-19580, List 28 foundation template is not used, and the booth is to be mounted on concrete, perform the following operations:

(1) Mark the locations for four mounting holes.

(2) Drill the four holes to accept masonry fasteners for 3/8-16 by 1-1/4 bolts.

(3) Install the masonry fasteners. See Section on Masonry Fasteners.

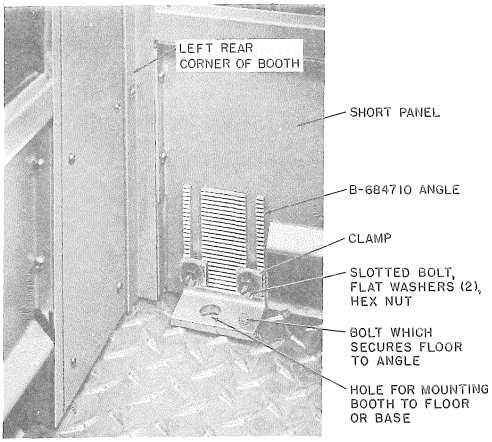

LEFT REAR CORNER OF BOOTH
SHORT PANEL
B-684710 ANGLE
CLAMP
SLOTTED BOLT, FLAT WASHERS (2), HEX NUT
BOLT WHICH SECURES FLOOR TO ANGLE
HOLE FOR MOUNTING BOOTH TO FLOOR OR BASE

Fig. 3—Anchor Bracket and Leveling Device

(4) Secure anchor brackets of booth to masonry fasteners using four 3/8-16 by 1-1/4 hex head bolts, four 3/8-inch lockwashers, and four 3/8-inch flatwashers.

(c) If booth is to be mounted on a wooden floor, perform the following operations:

(1) Mark the location for four mounting holes.

(2) Drill four lead holes to accommodate 5/16 by 2-1/2-inch lag screws.

(3) Secure booth to floor using the four 5/16 by 2-1/2 inch lag screws, four 5/16-inch lockwashers, and four 5/16-inch flatwashers.

(d) Adjust the anchor brackets (Fig. 3) if necessary, and ensure that the booth is level.

DOOR REQUIREMENTS

2.05 After anchoring and leveling booth, check door for the following:

(a) Door remains open 2 to 3 inches when it is at normal position.

(b) When pushed closed from inside, the door should remain completely closed.

(c) A pull on the handle should open and restore the door to normal position.

(d) See Section 508-354-300 for door adjustment.

3. TELEPHONE WIRING

Aerial wire spans fastened to booth should not exceed 25 feet.

FIRST ATTACHMENT

3.01 Attach drop wire hook (Fig. 4) or corner bracket (Fig. 5) (whichever is required) on right rear column adjacent to the entrance hole as follows:

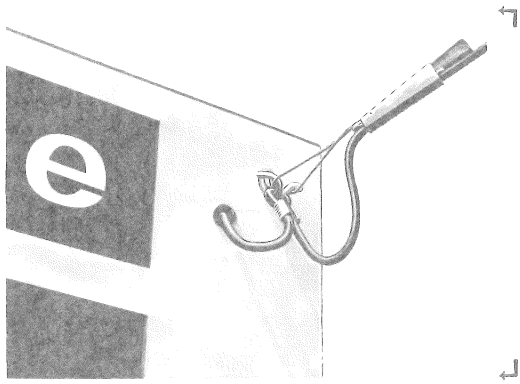


Fig. 4—Drop Wire Hook for First Attachment

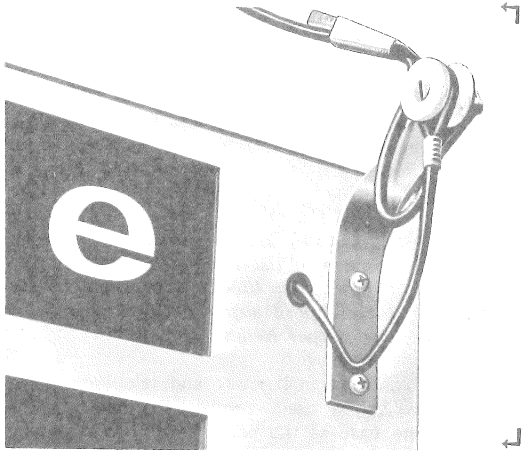


Fig. 5—Corner Bracket for First Attachment

A. Drop Wire Hook

(1) Secure drop wire hook (Fig. 4) to clinch nut (provided with booth) using one 1/4-20 by 3/4 FHM screw, one 1/4-inch flatwasher and one 1/4-inch lockwasher.

B. Corner Bracket

(1) Secure the corner bracket (Fig. 5) to the threaded clinch nut using one 1/4-20 by 3/4 Phillips RHM screw.

(2) Using the bracket as a template, drill a clearance hole for using another 1/4-inch screw.

(3) Further secure the bracket to the booth using one 1/4-20 by 3/4 Phillips RHM screw, one 1/4-inch flatwasher, one 1/4-inch lockwasher, and 1/4-inch hex nut.

DROP WIRE

3.02 Telephone wire entrance holes are located in the following locations.

- Top-rear of right-side column
- Bottom-rear of right-side column
- Through metallic conduit to holes provided in the right-rear corner of the booth floor.

3.03 Feed drop wire through entrance hole and terminate on 123A1A station protector.

The protector is located in the top of the right-rear corner behind an access plate; however, it may be moved to the bottom of the right-rear corner if ground level or underground entrance is used. If the protector is located in the ceiling area, the roof must be removed for accessibility.

The KS-19580 booth is equipped with bonding wires at both drop wire entrances. Before proceeding, check that one end is secured to the booth and the other end is terminated on the 123A1A protector.

COIN STATION CONNECTIONS

3.04 Station connection wires are furnished as shown in Fig. 6. Complete connections are covered in sections entitled Coin Collectors, Connections, and sections entitled Subscriber Sets, Connections.

4. ELECTRICAL WIRING AND GROUNDING

4.01 Electrical wiring and grounding of the booth is covered in Section 508-100-100.

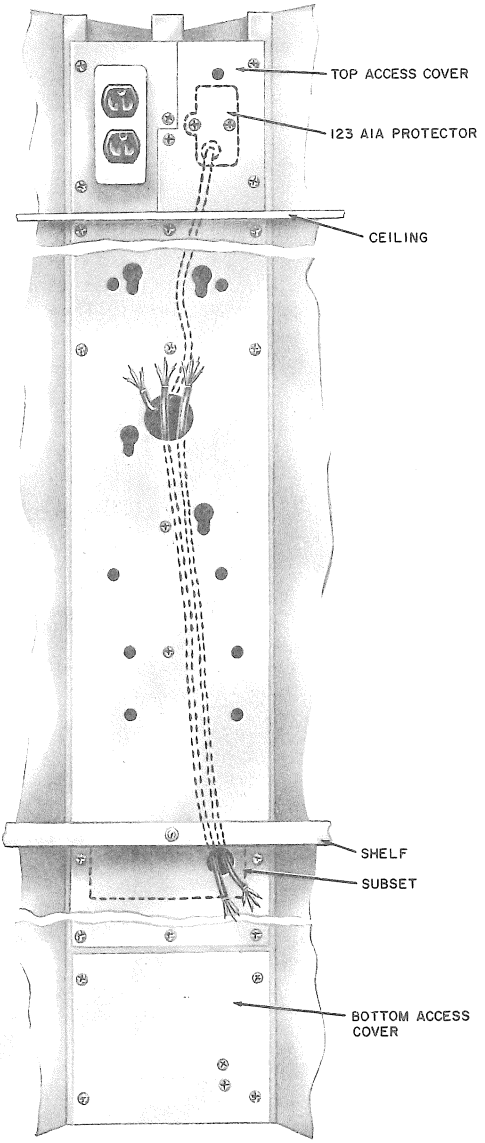


Fig. 6—Station Wiring

WIRING

4.02 Power wire entrance holes are located in the following locations:

- Top of right-rear column
- Bottom of right-rear column
- Through metallic conduit to holes provided in the right-rear corner of the booth floor.

4.03 For overhead entrance with plug-in features, use KS-19580, List 30 power cord assembly (Fig. 7).

4.04 For ground level entrance with plug-in features, use KS-19580, List 31 power cord group assembly (Fig. 8).

GROUNDING

4.05 Ensure that the ground terminal of the station protector is connected to the booth with bonding wire provided.

4.06 In multiple installations, bond the booths together for grounding purposes.

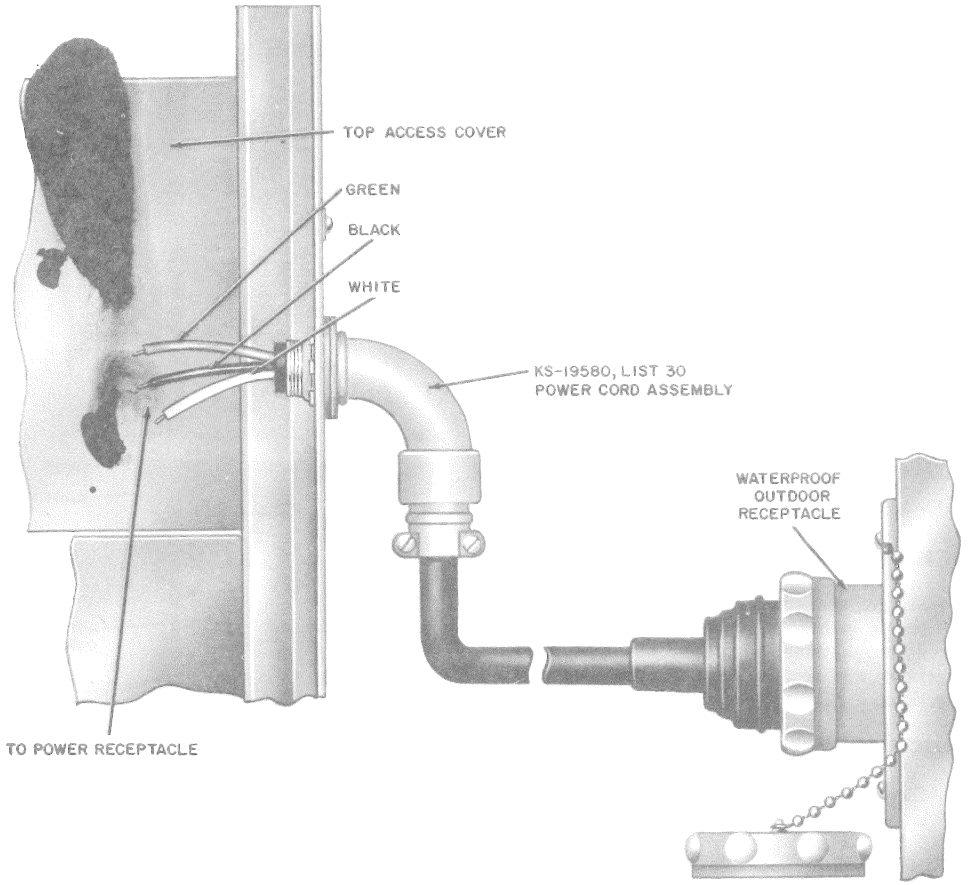


Fig. 7—KS-19580 List 30 Power Cord Assembly for Overhead Entrance

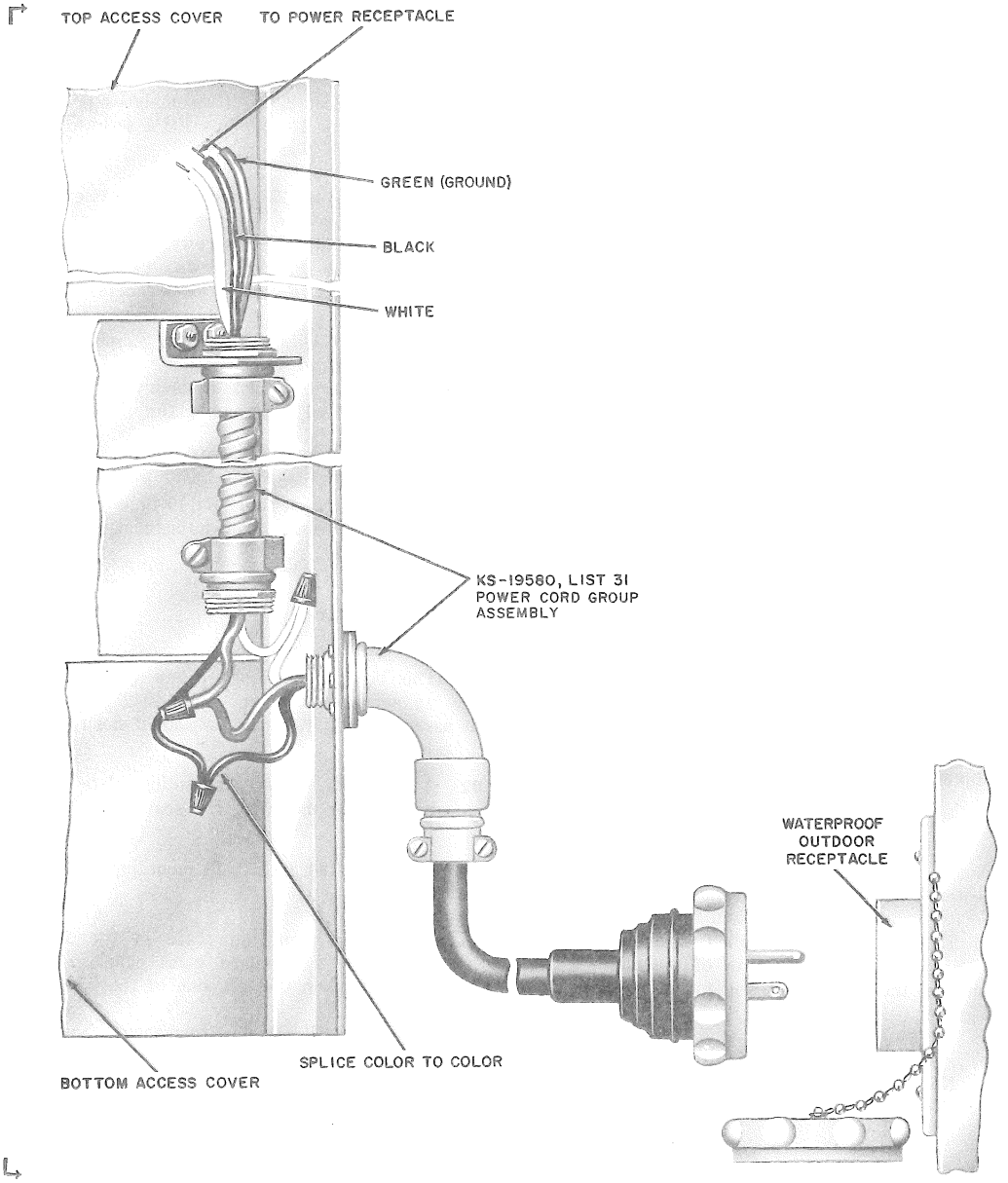


Fig. 8—KS-19580, List 31 Power Cord Group Assembly for Ground Level Entrance

5. KS-19207, LIST 3 LIGHT AND BLOWER UNIT

5.01 All KS-19580 booths will be furnished with a KS-19207, List 3 light and blower unit unless otherwise specified. See Section 508-820-100 for additional information including wiring.

6. KS-10207, LIST 7 LIGHT FIXTURE

6.01 If no ventilation is required a KS-19207, List 7 light fixture may be ordered. See Section 508-820-100 for additional information including wiring.

7. KS-19261, LIST 1 LIGHT CONTROL UNIT

7.01 A KS-19261, List 1 light control unit may be used to switch the KS-19207 light on at darkness and off at daylight. See Section 508-825-100.

7.02 Remove the plug near top of right-front column and install the light cell in this position.

7.03 Install the control unit on the KS-19207 light unit in accordance with Section 508-825-100.

One KS-19261 light control unit may be used to control the lights in multiple installations of five or less booths.

8. DIRECTORY RACK AND SHELF ARRANGEMENTS

8.01 There are two shelf assemblies, a directory rack, and an apparatus blank available for the booth. Install, when required, as follows: Refer to Section 508-354-100 for illustrations.

(a) The KS-19580, List 21 shelf assembly is used in the right rear corner of the booth. It contains the subscriber set mounting bracket (Fig. 9).

(b) Install the List 21 shelf assembly using four No. 10-32 by 1/2 Phillips FHM screws and four No. 10 CSK washers.

(c) The KS-19580, List 22 shelf assembly is used along the rear wall in conjunction with a KS-19580, List 25 directory rack assembly.

(d) Install the List 22 shelf assembly using four No. 10-32 by 1/2 Phillips FHM screws and four No. 10 CSK washers.

(e) Install the List 25 directory rack assembly between the two shelves using four No. 10-32 by 1/2 Phillips RHM screws, two No. 10-32 by 1/2 Phillips FHM screws, two No. 10 flatwashers and two No. 10 lockwashers.

(f) If a KS-19580, List 26 or List 27 nameplate blank is desired, install it along the top edge of List 25 directory rack assembly using the two pins furnished with nameplate.

(g) Install a KS-19580, List 24 apparatus blank, if required, using two No. 10-32 by 5/8 Phillips RHM screws, four No. 10 fiber washers, and two No. 10 elastic stop nuts furnished with apparatus blank.

9. SEAT ASSEMBLY

9.01 This booth is designed primarily for stand up service; however, a KS-19425, List 11 seat assembly (Fig. 10) can be used if desired.

9.02 A KS-19425, List 12 mounting plate must be used for mounting the seat.

9.03 Install KS-19425, List 12 mounting plate as follows:

(a) Install the mounting plate in the same manner as a standard glass panel in the bottom position on the left side of the booth.

(b) Install a B-650894 clip (furnished with seat assembly) on each corner of the List 12 mounting plate using four No. 8-32 by 3/8 SEMS RHM screws.

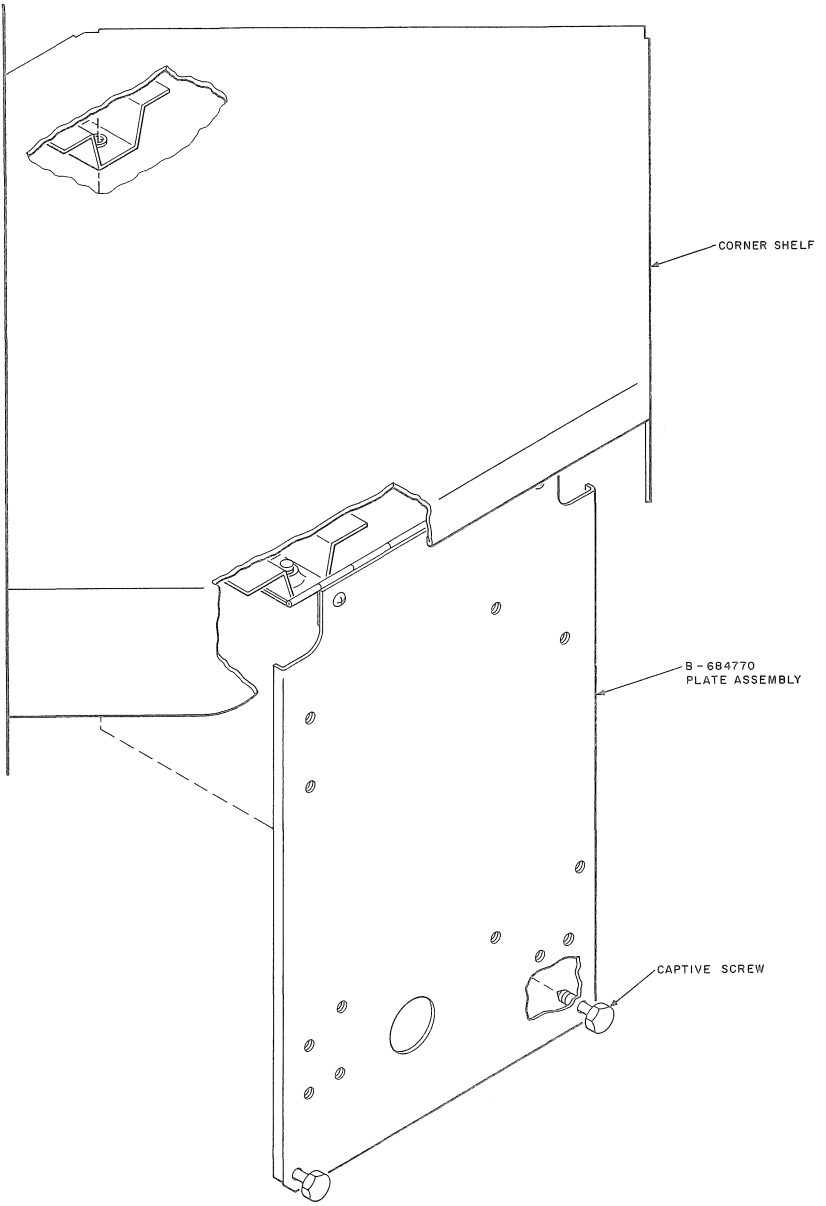


Fig. 9—Subscriber Set Mounting

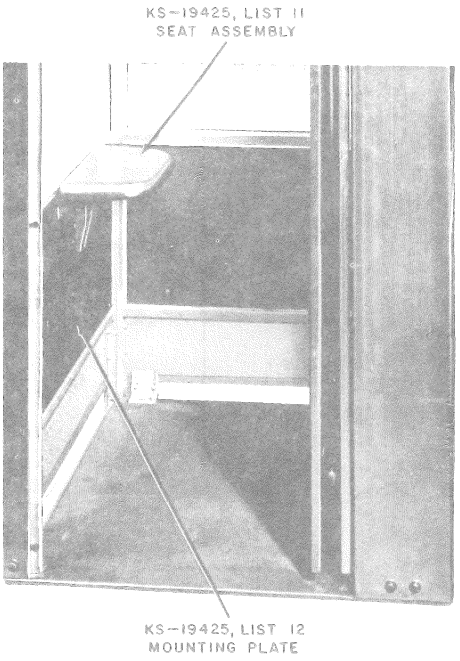


Fig. 10—KS-19425, List 11 Seat Assembly with KS-19425, List 12 Mounting Plate

Install the clips on the inside of the booth. Their purpose is to prevent the removal of retaining strips.

9.04 Install the seat assembly on the upper portion of the mounting plate using the following items (furnished with seat assembly) and install in the sequence listed.

- Four 1/4-20 by 1-1/8 carriage bolts (install with heads on outside of booth)
- Four B-650893 spacers
- Seat assembly
- Two 1/4-inch flatwashers (front and rear bolts)
- Four 1/4-inch lockwashers
- Four 1/4-20 cap nuts

10. MULTIPLE INSTALLATIONS

10.01 This booth is designed so that two or more booths can be installed side-by-side with only one thickness of panels between booths.

10.02 Perform the following operations for installing multiple booths.

(a) Install the first booth in the same manner outlined in Part 2.

(b) Install the second booth adjacent to the first booth.

The second booth will not have glass panels and phone sign in the side which joins the first booth.

(c) Join the two booths together using a KS-19580, List 20 multiple kit (Fig. 11). The frames are installed in the same manner as the glass panels.

KS-19580, LIST 51 RECEPTACLE ASSEMBLY

10.03 In multiple installations, a KS-19580, List 51 receptacle assembly (Fig. 12) must be used in conjunction with a KS-19261 light control unit as follows:

(a) One receptacle is required for ***each multiple installation*** where KS-19207, List 7 light fixtures are used.

(b) One receptacle is required for ***each booth*** in a multiple installation where KS-19207, List 3 light and blower units are used.

10.04 Install List 51 receptacle assembly on the bracket provided in the top-rear portion of the booth (Fig. 13).

10.05 Refer to Fig. 14 and 15 for wiring arrangements of multiple installations.

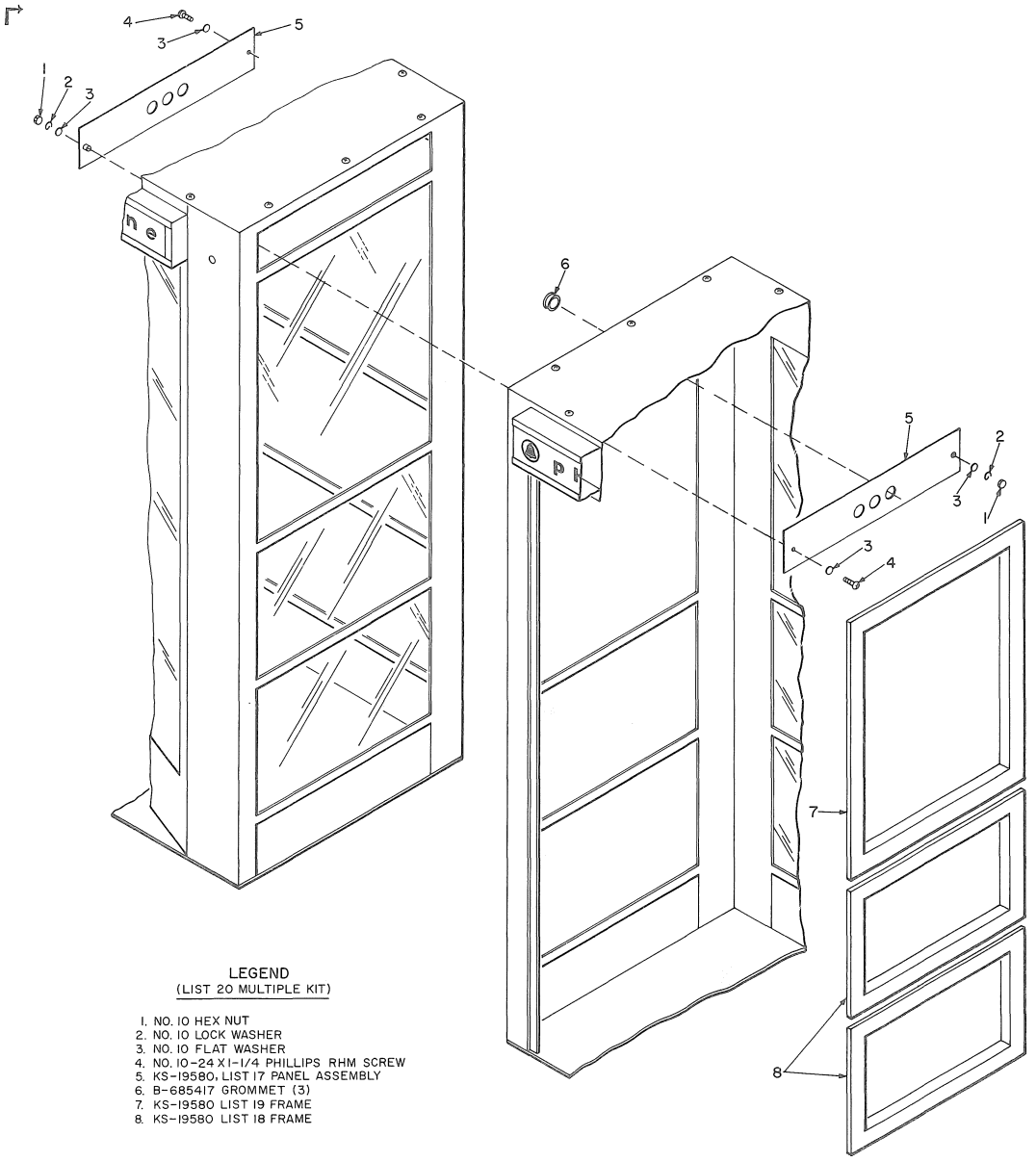

LEGEND
(LIST 20 MULTIPLE KIT)
1. NO. 10 HEX NUT
2. NO. 10 LOCK WASHER
3. NO. 10 FLAT WASHER
4. NO. 10-24 X 1-1/4 PHILLIPS RHM SCREW
5. KS-19580, LIST 17 PANEL ASSEMBLY
6. B-685417 GROMMET (3)
7. KS-19580 LIST 19 FRAME
8. KS-19580 LIST 18 FRAME

Fig. 11—KS-19580, List 20 Multiple Kit

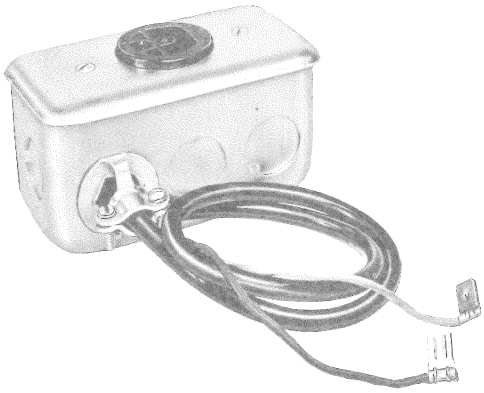


Fig. 12—KS-19580, List 51 Receptable Assembly

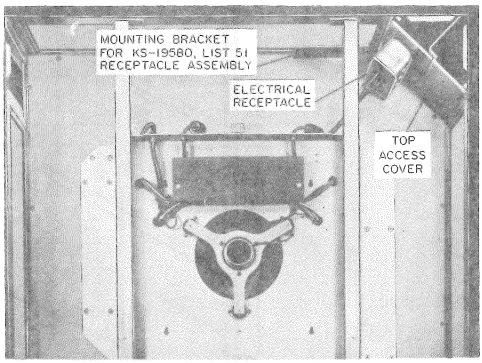
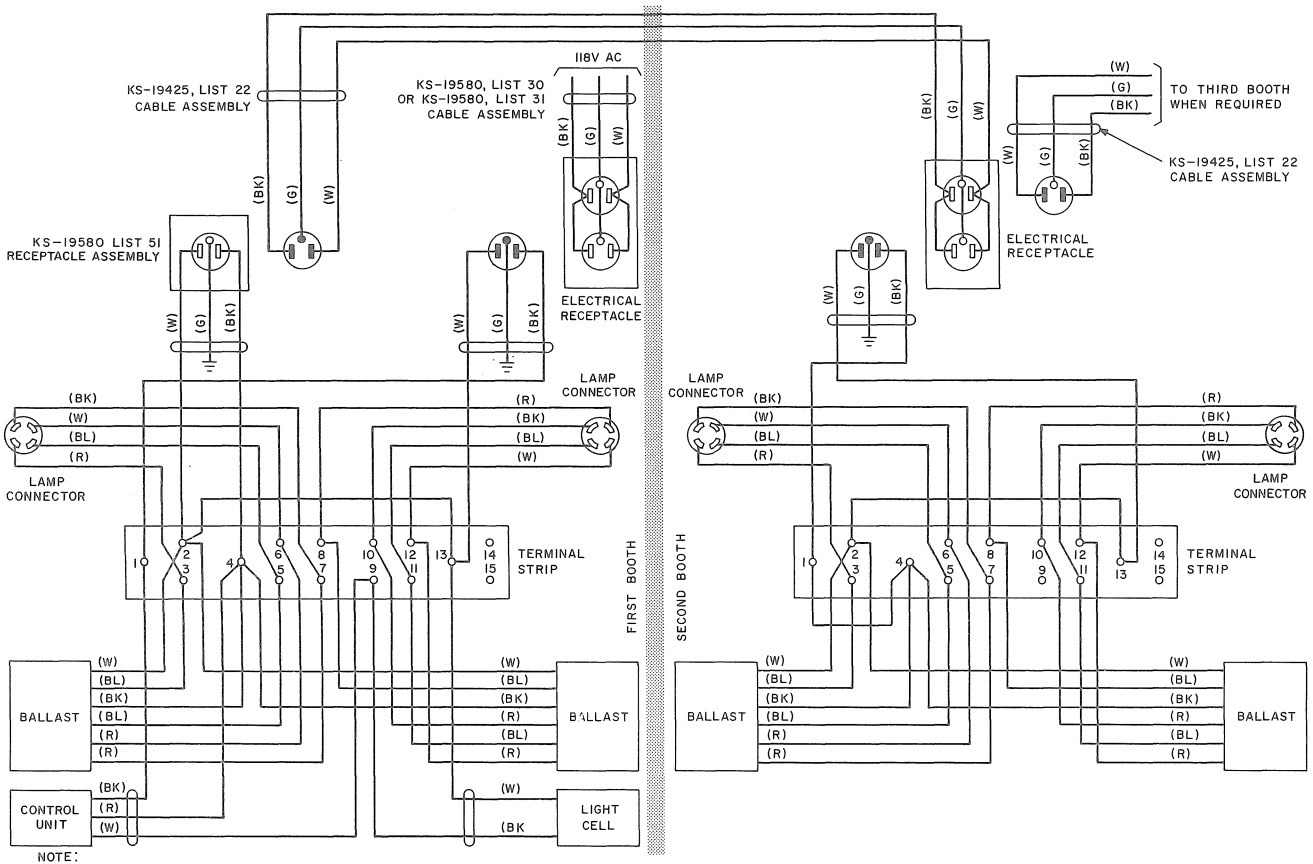
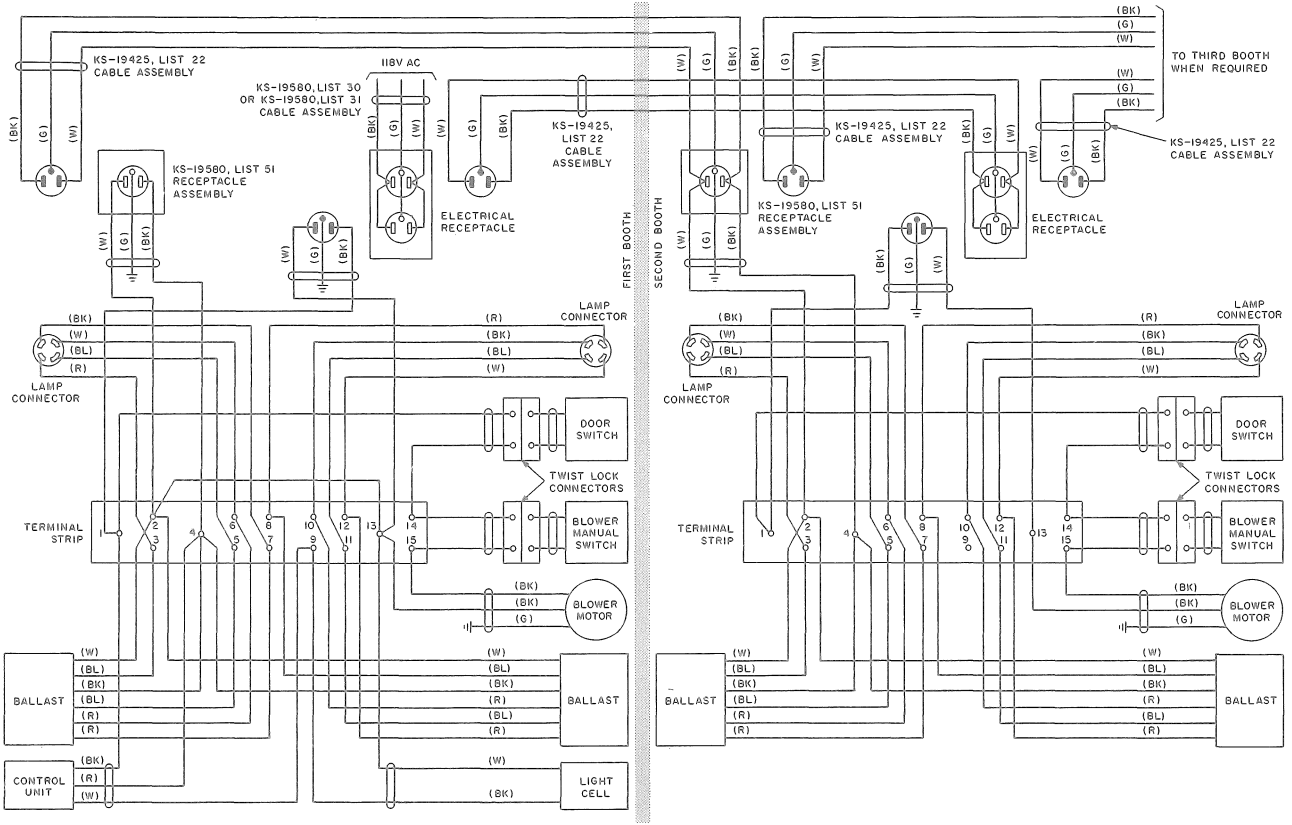


Fig. 13— KS-19580 Booth Ceiling Area



NOTE:
FOR MULTIPLE INSTALLATIONS USING KS-19207, LIST 7 UNITS, AND USING A KS-19261 LIGHT CONTROL UNIT (MAXIMUM OF FIVE BOOTHS FOR EACH CONTROL UNIT), REMOVE THE STRAP WIRE FROM TERMINAL STRIP TERMINALS 1 AND 4 IN FIRST BOOTH. INSTALL A KS-19580, LIST 51 RECEPTACLE ASSEMBLY IN THE FIRST BOOTH. CONNECT ELECTRICAL RECEPTACLE OF SECOND BOOTH TO LIST 51 RECEPTACLE OF FIRST BOOTH USING KS-19425, LIST 22 CABLE ASSEMBLY. CONNECT ELECTRICAL RECEPTACLE OF THIRD, FOURTH, AND FIFTH BOOTHS TO ELECTRICAL RECEPTACLE OF PREVIOUS BOOTH USING KS-19425, LIST 22 CABLE ASSEMBLY.

Fig. 14—Wiring Diagram of Multiple Installation Using KS-19207, List 7 Light Fixture



NOTE:

FOR MULTIPLE INSTALLATIONS USING KS-19207, LIST 3 LIGHT AND BLOWER UNITS, AND USING A KS-19261 LIGHT CONTROL UNIT (MAXIMUM OF FIVE BOOTHS FOR EACH CONTROL UNIT), REMOVE THE STRAP WIRE FROM TERMINAL STRIP TERMINALS 1 AND 4 IN ALL BOOTHS. REMOVE THE STRAP WIRE FROM TERMINALS 2 AND 13 IN ALL BOOTHS EXCEPT FIRST BOOTH. INSTALL A KS-19580, LIST 51 RECEPTACLE ASSEMBLY IN EACH BOOTH. CONNECT LIST 51 RECEPTACLE OF SECOND, THIRD, FOURTH AND FIFTH BOOTHS TO LIST 51 RECEPTACLE OF PREVIOUS BOOTH USING KS-19425, LIST 22 CABLE ASSEMBLY. CONNECT ELECTRICAL RECEPTACLES IN SAME MANNER.

Fig. 15—Wiring Diagram of Multiple Installation Using KS-19207, List 3 Light and Blower Unit

KS-19580 BOOTH (OUTDOOR)

MAINTENANCE

1. GENERAL

1.01 This section is reissued to:

- Revise Table A.
- Delete information on door guide adjustments.
- Revise Fig. 3 and 4 to agree with latest engineering design.
- Add Fig. 5.

1.02 The local telephone company shall establish the appearance standards of all exposed surfaces.

1.03 The local telephone company shall establish the safety standards for all booths.

1.04 All screws threaded into aluminum parts during the course of repair shall be coated with KS-19094 antiseize compound.

2. BOOTH CHECK POINTS

- Safe approach to booth (have dangerous conditions corrected)
- Appearance of booth
- Electrical grounding
- Door operation
- Panels and signs
- Booth lighting
- Directories and binders
- Dome and lights
- Security of booth anchorage
- Loose screws and bolts
- Seat assembly (if applicable)
- Shelf assemblies
- Power cords

3. CLEANING

3.01 Clean the booth in accordance with Section 770-170-308.

3.02 Ensure that the insect screen in the front sign enclosure is free of foreign material.

4. DOME ASSEMBLY

Use eye protection when removing the dome assembly.

4.01 The B-551952 dome assembly must be removed to make the light assembly accessible. Do this in accordance with Fig. 1.

4.02 Clean the space between the ceiling and roof of all loose dirt and foreign material.

4.03 Clean the inside of the dome assembly in accordance with Section 770-170-308.

4.04 Replace dome assemblies which do not meet local telephone company standards.

5. LIGHT ASSEMBLY

Use eye protection when handling fluorescent lamps. Before making any repairs or replacements in electrical equipment, disconnect plug or turn the service switch off and verify that circuit is dead by checking with an approved voltmeter.

5.01 Each booth is equipped with a KS-19207, List 3 light and blower unit or a KS-19207, List 7 light fixture. The unit is equipped with two fluorescent Circline 40-watt cool white lamps.

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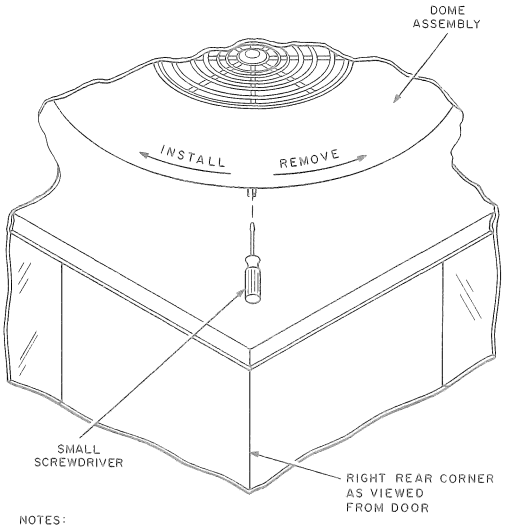


NOTES:
1. FOR REMOVAL, INSERT SMALL SCREWDRIVER THROUGH SLOT IN CEILING, DEPRESS DETENT SPRING, AND TURN DOME ASSEMBLY COUNTERCLOCKWISE.
2. FOR INSTALLATION, PLACE DOME ASSEMBLY IN CEILING AND TURN IT CLOCKWISE UNTIL DETENT SPRING ENGAGES AND LOCKS DOME.

Fig. 1—Method of Removing Dome Assembly

5.02 Refer to Section 508-820-100 for wiring and maintenance of the KS-19207 light and blower unit.

5.03 If the KS-19207, List 3 light and blower unit is present, ensure that the door operated B-650927 switch assembly actuates properly when the door is closed. Also ensure that the manually operated blower switch assembly ♦(B-684779)♦ , located in the right front corner of the booth, turns the blower on and off.

5.04 Ensure that all electrical leads are securely clamped away from the air inlet hole and from the rotating impeller if a blower is present.

5.05 When ballast shows signs of leaking compound, replace the complete KS-19207 unit.

5.06 See Section 508-354-200 for wiring diagrams of multiple installations.

6. LIGHT CONTROL UNIT

6.01 Maintenance instructions for KS-19261 light control units are covered in Section 508-825-100.

7. PANEL REPLACEMENT

SIDE AND REAR PANELS

Warning: Wear gloves and eye protection when handling glass panels to prevent personal injury. Use care when handling tempered glass. Nicks or scratches will damage the glass and may cause it to shatter. Do not allow metal tools to come in contact with edge of tempered glass. Before installation, examine glass for nicks or chips along edges. If such defects are apparent, do not use this glass.

7.01 Replace those panels which are broken or which will not meet local telephone company standards. Refer to Table A for available panels.

7.02 Booth panels and signs are held in place by four interlocking retaining strips. They are inserted in sequence as shown in Fig. 2. The No. 4 strip is rippled and is held in place by interface friction.

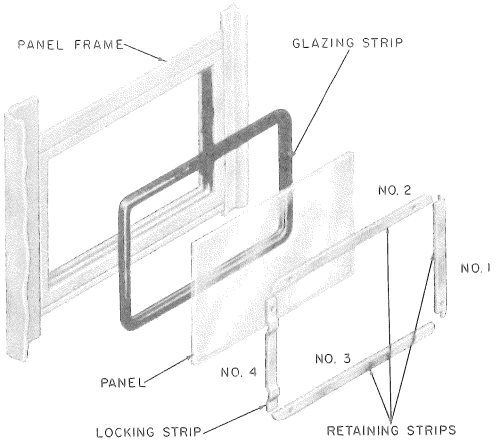


Fig. 2—Assembly of Side or Rear Panels

7.03 Replace panels as follows:

(1) Remove No. 4 locking strip.

(2) Remove retaining strips No. 2 and 3.

(3) Remove retaining strip No. 1.

(4) Remove panel and rubber glazing strip.

(5) Apply rubber glazing strip to replacement panel.

(6) Insert panel into frame with the beaded edge of glazing strip on the outside.

(7) Replace retaining strips in sequence as shown in Fig. 2.

BOTTOM PANELS

7.04 Replace those panels which are broken or which will not meet local telephone company standards. Refer to Table A for available panels.

7.05 To remove panels, remove Phillips RH screws (eight for short panel and ten for solid panel).

The rear bottom panels are equipped with a mounting bracket and leveling device. When ordering replacement panels for the rear, and a mounting bracket angle (B-684710) is not needed, the following numbers may be used.

- KS-19580, List 49—Solid Panel
- KS-19580, List 50—Short Panel

8. PHONE SIGNS

8.01 The front sign may be removed as follows:

(a) Remove four self-tapping screws and the top metal retainer which secures the sign.

(b) Slide the sign up and out of the enclosure assembly.

(c) Use reverse procedure for installing.

Roof must be removed before side and rear sign panels can be removed. See Part 14.

8.02 The side and rear signs are removed in the same manner as the side panels (see 7.03 and Fig. 2).

8.03 Replace signs which are broken or which will not meet local telephone company standards. Refer to Table A for available signs.

9. SEAT ASSEMBLY

9.01 Replace those seats (if present) which are broken or which will not meet local telephone company standards. Refer to Section 508-354-200 for installation procedures.

10. SHELF ASSEMBLIES AND APPARATUS BLANKS

10.01 Replace those shelves and apparatus blanks which are broken or which will not meet local telephone company standards. Refer to Section 508-354-100 for available shelves, and Section 508-354-200 for installation procedures.

11. DIRECTORIES AND BINDERS

11.01 Directory binder rods or hinge fasteners shall not be broken or distorted to the extent that directories are not capable of being held securely in the binder. Hinges shall not be so bent, burred, or distorted as to obstruct the free passage of hinge fasteners or prevent smooth operation of covers.

11.02 Binder locking devices shall operate freely and lock securely. Adjustable backplates shall be in good condition.

11.03 Ensure that a rubber bumper is in place on the directory rack hanger to cushion the binder as it drops into the rack.

- B-685401 for KS-19425, List 16 directory rack
- B-697467 for KS-20030, List 3 directory hanger

TABLE A

REPLACEMENT PARTS

NAME	PART NO. LIST NO., OR DESCRIPTION		REMARKS	
Actuator Assembly	B-650929		Actuates B-650927 switch assembly	
Angle	B-684710		Adjustable mounting bracket in rear and right front corner	
	B-684711		Adjustable mounting bracket in left front corner	
	B-650824		Support for B-650825 bumper	
Bumper	B-650825		Located in left end of door track as viewed from front of booth	
	B-650826		Located right end of door track as viewed from front of booth	
	B-684714		Used in left door frame	
	B-651921		Used on right rail as door stop	
Cover Assembly	B-685413		Access cover which includes 123A1A protector	
Dome Assembly	B-551952		Circular lens and ventilator under light fixture	
Enclosure Assembly	B-685376		Encloses front sign	
Floor	B-684719-1		Tread plate	
	B-684719-2		Abrasive clad plate	
Grommet	B-684716		Used at telephone wire entrance holes	
Header Assembly	B-650822			
Lamp	40 Watt-Circline cool white		Used in KS-19207 light unit	
Nut, Adjusting	B-684712		Used in conjunction with mounting bracket angles	
Panels, bottom	KS-19580-	38	Short, right side	
		39	Short, rear (includes mounting bracket angle)	
		40	Solid, right side	
		41	Solid, rear (includes mounting bracket angle)	
		49	Solid, left side	
		50	Short, left side	
Panels, door, side, and rear		10	Tempered Glass	Side or Rear, small 7/32-inch thick
		11		Side or Rear, small, 1/4-inch thick
		12		Side or Rear, large, 7/32-inch thick
		13		Side or Rear, large, 1/4-inch thick
		14		Door, 7/32-inch thick
		15		Door, 1/4-inch thick
		32	Aluminum Faced	Side or Rear, small
		33		Side or Rear, large

TABLE A (Cont)

REPLACEMENT PARTS

NAME	PART NO., LIST NO., OR DESCRIPTION			REMARKS	
Panels, door, side, and rear (Cont)		90	Porcelain Enamel	Side or Rear, large	Blue
		91			Gray
		92			Red
		93		Side or Rear, small	Blue
		94			Gray
		95			Red
Panels, Sign	KS-19580-	16	Sides or Rear	Aluminum, solid	
		35		Aluminum, louvered	
		72	Front	Blue background, White Letters	
		75		White background, Blue Letters	
		86		Blue blank	
		87		White blank	
		80	Sides or Rear	Blue background, White Letters	
		84		White background, Blue Letters	
		88		Blue blank	
		89		White blank	
Plug	Shake Proof Corp. No. 207-560401-00-3102		Plug button for plugging power wire entrance holes		
	Shake Proof Corp. No. 207-440401-00-0667		Plug button for plugging light control entrance hole ←		
Roof Assembly	B-651303				
Strip, glazing	B-685410-1		Side or rear sign		
	B-685410-2		Side and rear glass panels (large)		
	B-685410-3		Side and rear glass panels (small)		
	B-685410-4		Door panels		
	B-685411-1		Multiple installation sign panel assembly		
	B-685411-2		Aluminum or porcelain type panels (large)		
	B-685411-3		Aluminum or porcelain type panels (small)		
	B-685410-5		Front sign		
Strip, retaining	B-685372-1		Top of door panels		
	B-685372-2		Either side of door panels		
	B-685372-3		Bottom of door panels		
	B-685372-4		Either side of large side panels		
	B-685372-5		Locking strip for large side panels		
	B-685372-6		Either side of small side panels		

TABLE A (Cont)

REPLACEMENT PARTS

NAME	PART NO., LIST NO., OR DESCRIPTION	REMARKS
Strip, retaining (Cont)	B-685372-7	Top of small side panels, large side panels, or side and rear phone signs
	B-685372-8	Locking strip for small side panels
	B-685372-9	Bottom of small side panels, large side panels, or side and rear phone signs
	B-685372-10	Either side of phone signs (front and rear)
	B-685372-11	Locking strip for phone signs
Strip, Rubber	B-685412	Adhesive backed roof gaskets*
Switch assembly	B-650927	Energizes light and blower when door is closed
	B-684779	Turns blower motor on and off

* Roof gaskets should be checked for damage each time roof is removed.

11.04 Install a new bumper, if required as follows:

(a) Soften old adhesive with trichloroethane and remove.

(b) Install new bumper using 3M Company EC-880 adhesive or equivalent.

11.05 ⧫Refer to Section 508-710-101 for additional information on directories and binders.⧫

12. PROTECTOR GROUND

12.01 The protector is located on the rear of the access cover located in right rear corner of ceiling area or in some cases it may be located on the rear of the access cover located in the right rear corner at floor level. If the protector is located in the ceiling area, accessibility is obtained by removing roof. See Part 14.

12.02 The booth is equipped with a bonding wire at each of the access covers. Ensure that this wire is secured to the booth and protector.

12.03 If the bonding wire becomes broken, replace with copper or aluminum wire no smaller than No. 14 gauge.

13. FLOOR

13.01 If a booth is equipped with an abrasive-clad floor, the finish can be restored with the use of Goodyear Griptred flooring and protective coating, dark grey 592-7005 or equivalent. This can be applied with an ordinary paint brush.

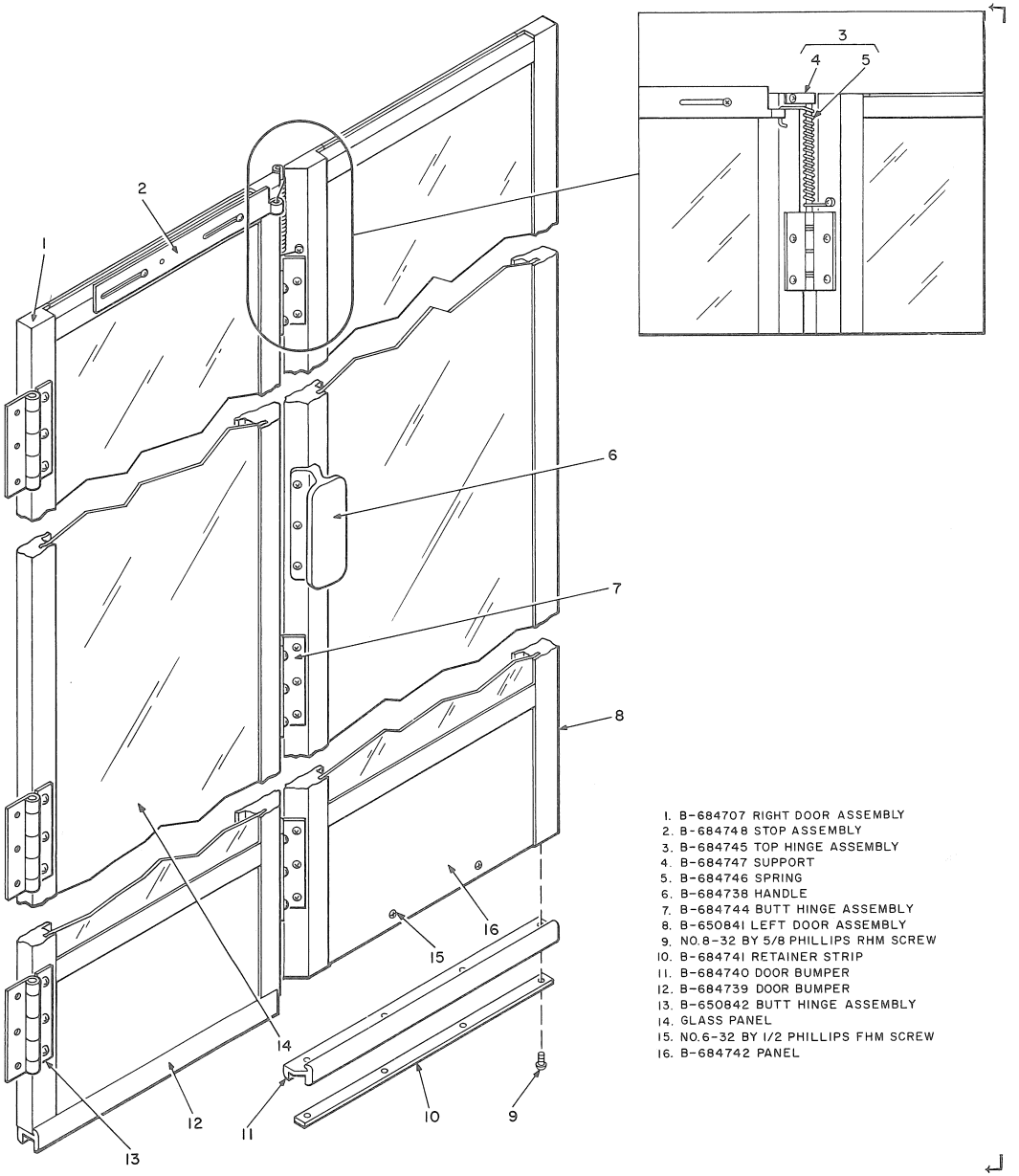
14. ROOF

14.01 If it becomes necessary to remove the roof, remove 12 No. 8-32 by 5/8 Phillips RH screws and lift off.

14.02 There are four B-650854 adhesive backed rubber strips which are riveted along the booth edge under the roof. Check strips for damage each time roof is removed. Replace strips as necessary.

15. DOOR REQUIREMENTS (See Fig. 3 For Replacement Parts)

15.01 The door shall operate freely and smoothly without squeaking or chattering. The nylon rollers and door track shall be clean of foreign material and the track shall not be gouged, burred, or scored causing rough operation of the door.



1. B-684707 RIGHT DOOR ASSEMBLY
2. B-684748 STOP ASSEMBLY
3. B-684745 TOP HINGE ASSEMBLY
4. B-684747 SUPPORT
5. B-684746 SPRING
6. B-684738 HANDLE
7. B-684744 BUTT HINGE ASSEMBLY
8. B-650841 LEFT DOOR ASSEMBLY
9. NO.8-32 BY 5/8 PHILLIPS RHM SCREW
10. B-684741 RETAINER STRIP
11. B-684740 DOOR BUMPER
12. B-684739 DOOR BUMPER
13. B-650842 BUTT HINGE ASSEMBLY
14. GLASS PANEL
15. NO.6-32 BY 1/2 PHILLIPS FHM SCREW
16. B-684742 PANEL

Fig. 3—B-684705 Door Assembly

15.02 With the booth level, when the door is fully closed, it shall remain closed until opened manually, and when in the fully closed position the top of the door shall be in alignment with the door frame.

15.03 ▶The door shall be held open 2 to 3 inches when in the normal position. Ensure that maximum tension is obtained on spring in center of door (Fig. 3).

15.04 ▶Fig. 4 shows the B-651721-2 door guide assembly which is a replacement for the older B-650843 assembly. All new KS-19580 booths are equipped with the new assembly. All early model KS-19580 booths should have the old assemblies replaced with the new B-651721-2 door guide assembly. Use three No. 8 by 1/2 Phillips RH self tapping screws to secure assembly to door frame.◀

15.05 The door actuated switch shall operate as follows when the manual blower switch is on:

(a) With the door fully closed, the blower motor shall run.

(b) With the door held by the door guide spring in the open position specified in 15.03, the blower motor shall be off.

The door switch shall have no effect on the operation of the booth lamps if the lamps are wired for continuous illumination or automatic light control.

15.06 The clear door opening shall be a minimum of 21 inches. It will be necessary to relocate the door bumper in some booths to obtain this dimension.

15.07 Rubber bumpers at the bottom of the doors shall not be frayed or torn to expose underlying metal. Screws and retainer strips shall hold bumpers securely.

15.08 Ensure that angle bracket associated with felt bumper in door track is tight.

16 DOOR MAINTENANCE

16.01 If door hinges squeak, lubricate them at each joint between the barrels with KS-14774, L2G lubricating grease or equivalent; a KS-14796 oiler may be used.

16.02 Replace glass panels in similar manner as side panels (Fig. 2).

16.03 Replace damaged bumpers along bottom of door (Fig. 3).

17. REPLACEMENT PARTS

17.01 The parts listed in Table A are not shown in Fig. 3 or 4 but may be ordered as necessary.

▶***The B-651921 bumper (Fig. 5), listed in Table A, is a replacement part; however, all booths have not been equipped with these bumpers. A No. 10-32 tapped hole is provided on the right side rail for installation. Ensure that this bumper is either present or is installed on each maintenance check. Use screw described in Fig. 5.***◀

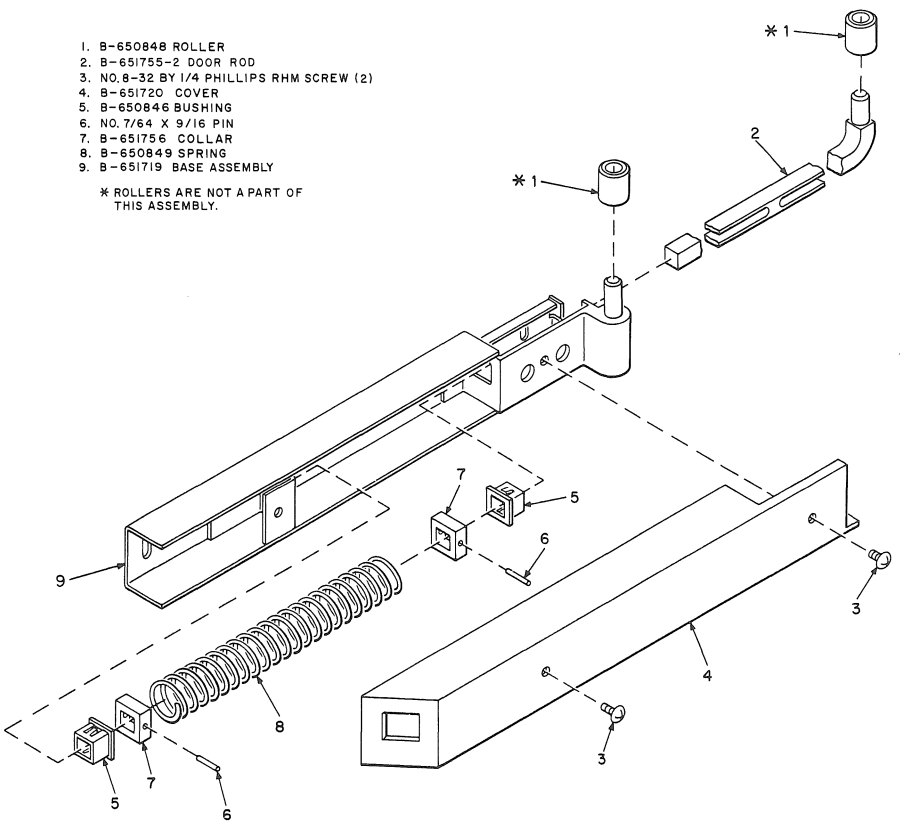


Fig. 4—B-651721-2 Door Guide Assembly

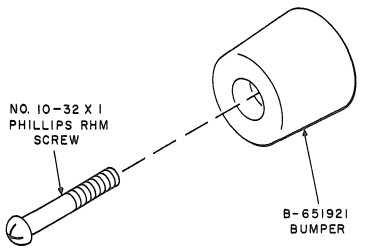


Fig. 5—B-651921 Bumper With Mounting Screw

GLADWIN OUTDOOR TELEPHONE BOOTHETTE

1. GENERAL

1.01 This section provides information covering the description, installation, connection, maintenance, and supplies for the Telephone Boothette.

1.02 This section is reissued to:

(a) Incorporate improvements in the boothette.

(b) Add to the supplies listing additional accessories.

(c) Delete information on signs which are covered in Addendum to BSP C39.711.

(d) Change ordering information.

1.03 The additions and changes including a re-arrangement of the illustrations for more convenient use, are so extensive that it is not practicable to indicate them by marginal arrows.

2. DESCRIPTION

2.01 The Boothette consists of a clear plastic housing 33 inches high, 20 inches wide, and 15-1/2 inches deep. It has a bug-proofed plastic dome with the letters "Telephone" in red or blue. Illumination is provided by a 32-watt fluorescent lamp mounted in the dome.

2.02 Refer to Sketch A and its associated notes for a complete description and illustration of the GP type boothette. The boothette may be mounted on a pedestal, pole, or wall.

2.03 The coin collector mounts on a mounting plate that is secured to a hollow steel shaft welded to the steel base in the boothette. Two conduits are provided within this shaft for the telephone and electrical service facilities. A door described by the manufacturer as a "false bottom" hinges downward to permit access to the equipment cabinet containing the local wiring, protector, subscriber set, light switch, and automatic light control when used.

3. SUPPLIES

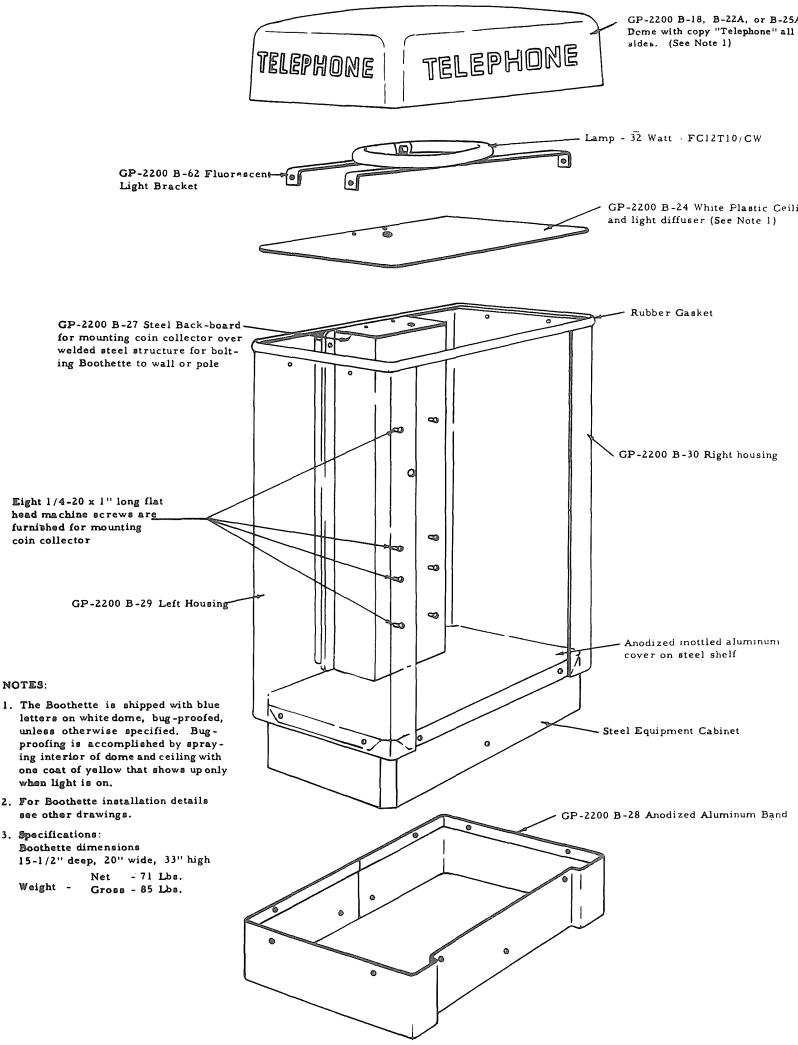
3.01 The ordering information for the Gladwin Outdoor Telephone Boothette is as follows:

GP-2200 List 1A-22	Boothette of Sketch A with dome having red letters on white background.
GP-2200 List 1A-25	Boothette of Sketch A with dome having blue letters on white background. Bug-proofed.

3.02 The ordering information for the Boothette mounting details and accessories are as follows:

GP-2200 List 18	Photo electric automatic light control.
GP-2200 List 12	PEDESTAL POST
GP-2200 List 13	PEDESTAL POST with 12" square steel base. (May be used for temporary installations.)
GP-2200 List 16	POLE MOUNTING ADAPTERS Specify pole diameter (4 bolts furnished).

THE BOOTHETTE IS SHIPPED ASSEMBLED AND READY FOR INSTALLATION


TELEPHONE
TELEPHONE
GP-2200 B-18, B-22A, or B-25A Plastic Dome with copy "Telephone" all four sides. (See Note 1)
Lamp - 32 Watt - FC12T10/CW
GP-2200 B-62 Fluorescent Light Bracket
GP-2200 B-24 White Plastic Ceiling and light diffuser (See Note 1)
GP-2200 B-27 Steel Back-board for mounting coin collector over welded steel structure for bolting Boothette to wall or pole
Rubber Gasket
GP-2200 B-30 Right housing
Eight 1/4-20 x 1" long flat head machine screws are furnished for mounting coin collector
GP-2200 B-29 Left Housing
Anodized mottled aluminum cover on steel shelf
Steel Equipment Cabinet
GP-2200 B-28 Anodized Aluminum Band

NOTES:

1. The Boothette is shipped with blue letters on white dome, bug-proofed, unless otherwise specified. Bug-proofing is accomplished by spraying interior of dome and ceiling with one coat of yellow that shows up only when light is on.
2. For Boothette installation details see other drawings.
3. Specifications:
   Boothette dimensions
   15-1/2" deep, 20" wide, 33" high
   Weight - Net - 71 Lbs.
   Gross - 85 Lbs.

BOOTHETTE
EXPLODED VIEW
(SHIPPED ASSEMBLED)
(GP-2200 LIST 1)

SKETCH A

GP-2200 List 41	MOUNTING POLE - 8' - 3" total length - 3" diameter.
GP-2200 List 42	MOUNTING POLE - 5' - 3" high, with 18" square steel base - 3" diameter.
GP-2200 List 43	MOUNTING POLE - 13' - 6" long (10' - 6" above ground) - 3" diameter.
GP-2200 List 48	GUARD RAIL - 2" diameter steel pole.
GP-2200 List 81	Set of four 3/8" x 5" lag screws with expansion shields for wall mounting. (1 set required per Boothette).
GP-2200 List 82	Set of four thru-bolts for wall mounting - length must be specified including 2" allowance for thickness of Boothette. (1 set required per Boothette.)
GP-2200 List 83	Set of four 3/8" x 5" toggle bolts for wall mounting. (1 set per Boothette.)
GP-2200 List 84	Set of carriage bolts for back to back pole mounting on standard 3" Gladwin poles. Set includes four 3/8" x 8" bolts, four 3/8" nuts, four 3/8" flat washers. (1 set per Boothette).

3.04 The ordering information for the Boothette replacement parts is as follows:

GP-2200 B-18	Dome, blue with white letters
GP-2200 B-22A	Dome, white with red letters, bug proofed unless otherwise specified.
GP-2200 B-20	Dome, red with white letters.
GP-2200 B-24	Ceiling, white, bug proofed unless otherwise specified.
GP-2200 B-25A	Dome, white with blue letters, bug proofed unless otherwise specified.
GP-2200 B-27	Plate - backboard steel.
GP-2200 B-28	Anodized aluminum band.
GP-2200 B-29	Housing - left, clear plastic.
GP-2200 B-30	Housing - right, clear plastic.
GP-2200 B-62	Fluorescent light bracket for Boothette with one 32-watt circline lamp and connector.

3.05 All replacement parts are interchangeable on both the old and new type boothette with the exception of the plastic housing and wall bracket mounting GP-2114 on the new type boothette, the wall bracket mounting is an integral part of all boothettes manufactured. For the older type booths which have the one piece housing, the housing should be ordered as follows:

Housing: GP-2120 clear plastic housing.

So that application of existing stocks may be applied, it will be necessary to state on the requisition whether the boothette is to be wall or pedestal mounted. Where existing boothettes of the older type in field stocks are to be changed from pedestal to wall mounting the necessary wall bracket may be ordered as follows:

Bracket: GP-2114, wall mounting.

3.06 (a) For walk-up use, the directory should be secured to the boothette with 15" directory chain.

(b) For drive-up locations, the directory should be secured with two 15" directory chains spliced together.

3.07 The standard coin collector handset cord should be used in a walk-up boothette. A 5' 6" cord substituted in the drive-in boothette.

4. LOCATING

(A) PRELIMINARY SURVEY

4.01 A Telephone Company representative from the Commercial Department will generally:

(a) Select a location and arrange for its clearance in time for the delivery of the boothette.

(b) Where necessary, make arrangements for protecting the boothette from such hazards as vehicular traffic by the provision of protective bumper posts, iron railings, or concrete curbing.

(c) Make arrangements for the connections of lighting equipment and work out arrangements for replacing lamps and furnishing electric current. If provision for blackout is necessary, arrangements should be made to instruct the agent or other responsible person in the operation of the light switch located in the base of the boothette.

(d) Furnish complete information to the Plant Department for the preparation of orders for the boothette installation.

NOTE: Where concrete base is required, the Plant Department will make arrangements for its provision with a local contractor.

(B) GENERAL REQUIREMENTS

4.02 Boothettes shall be located as specified on service orders or attachment thereto.

4.03 If location specified conflicts with requirements outlined, the supervisor should be notified and special instructions received before installation is started.

4.04 Boothettes should be easily accessible to the public. They may be pedestal mounted like parking meters, or wall mounted on sides of buildings, building nooks, and entrance ways. Further, they may be pole mounted on company or privately owned poles, but due to added cost and construction features, installation on joint use poles should not be considered. The provision of local electrical service wiring to the boothette is not defined as joint use.

4.05 The Boothette should be so located that:

(a) The approach is free from hazards such as service pits or lifts, curbs, broken or uneven sidewalks, and other obstructions.

(b) Boothette equipment will not be exposed to damage from vehicular traffic.

(c) Sufficient space is available over top and around boothette to permit access to equipment.

(d) Exterior surfaces of plastic panels are readily accessible for cleaning.

5. INSTALLATION

5.01 The following installation procedures are listed for the boothette.

(a) Pedestal, Post Type Mounting:

1. Prepare hole approximately 30" deep by 12" diameter to receive concrete.

2. Place the (extra-heavy gauge) 2-1/2" pipe post in position. Hold ground wire entrance pipe in position.

3. Place electrical and telephone conduit or cable as required.

4. Pour cement around pipe. The pipe length above telephone users level should be a maximum 30", minimum 28" for a drive-in boothette and maximum 44", minimum 42" for pedestrian use.

CAUTION: THE POST IS SCORED AT THE TOP AND SHOULD POINT TO THE FRONT OF THE BOOTHETTE. THE GROUND WIRE AND TELEPHONE SERVICE ENTRANCE MAY BE MADE THROUGH THE BOTTOM OF THE PIPE.

5. After cement is set, install the boothette on the post and secure as shown in Sketch B or C.

(b) Wall Mounting

1. Template for locating holes in walls is furnished with each Boothette.

2. See List 81, 82, or 83 under Supplies for proper fastening. Obtain locally or order with Boothette.

3. Hold template in place and mark location of 4 fastening (drillings). See detail Sketch B for height above telephone user's grade level (Bottom holes should be maximum 49", minimum 47" for walk-up use, and a maximum 36", minimum 34" for drive-in usage.

4. Prepare bolt holes as required.

5. Install the boothette.

(c) Pole Mounting

1. Pole mounting requires pipe mounting adapters. See detail Sketch C. The adapters are furnished with bolts.

2. Install Boothette on pole at proper height above telephone user's grade level. (Top of shelf should be 44" maximum, 42" minimum for pedestrian use; 30" maximum, 28" minimum for drive-in usage.

5.02 Refer to Sketch D for typical suggested drive-in type boothette arrangements.

NOTES: (Sketch D)

1. Suggested typical installation arrangements that may be used as are, or modified as location requires.

2. Any part of suggested arrangements may be ordered.

3. Signs and boothettes may be installed on existing poles. Specify pole diameter.

4. The List 43 pole is drilled and electrical service and ground wires may be run same as shown on pedestal mounting detail.

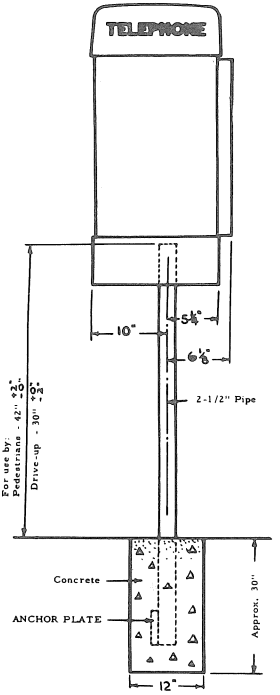
5. The List 43 pole may be used as an aerial entrance pole. Service and electrical wiring may be installed in the pole or may come down beside the pole.

6. Follow the same procedure as shown on pedestal mounting detail.

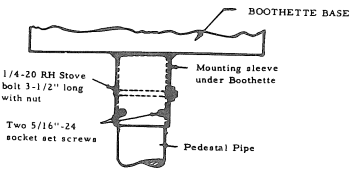
Lighted sign wiring is supplied by Mfg. to Boothette switch located in equipment cabinet.

5.03 The List 48 Guard Rail may be used for protection to prevent damage from vehicles. Install as per Sketch D.

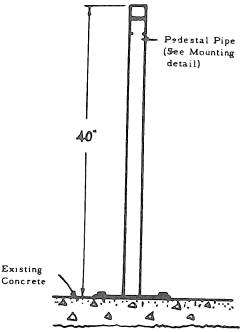
5.04 Where a concrete curbing or base is required, the base or curbing should consist of a concrete mix equivalent to first grade sidewalk mix. The shape and size of concrete forms will vary due to terrain and local requirements. However, Sketches E and F of this section have been prepared as guides which may be used or modified.



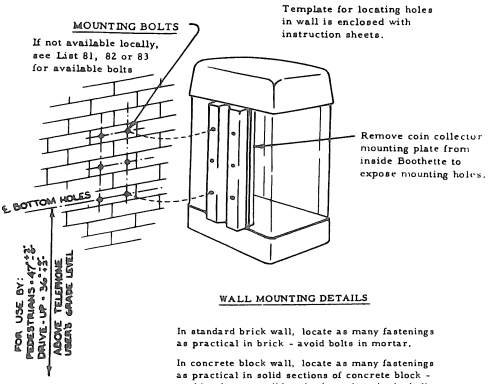
GP-2200 LIST 12
PEDESTAL POLE 66" LONG


BOOTHETTE BASE
1/4-20 RH Stove bolt 3-1/2" long with nut
Mounting sleeve under Boothette
Two 5/16"-24 socket set screws
Pedestal Pipe

MOUNTING DETAIL
PEDESTAL PIPE



GP-2200 LIST 13 PEDESTAL POST 40" HIGH WITH 12" x 12" SQUARE PLATE (May be used in temporary locations)

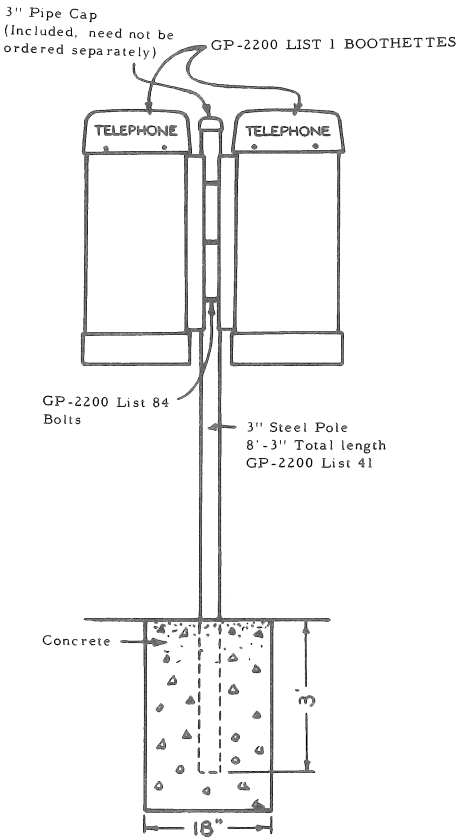

MOUNTING BOLTS
If not available locally, see List 81, 82 or 83 for available bolts
Template for locating holes in wall is enclosed with instruction sheets.
Remove coin collector mounting plate from inside Boothette to expose mounting holes.
℄ BOTTOM HOLES
FOR USE BY:
PEDESTRIANS - 47"±2"
DRIVE-UP - 36"±2"
ABOVE TELEPHONE USER'S GRADE LEVEL

WALL MOUNTING DETAILS

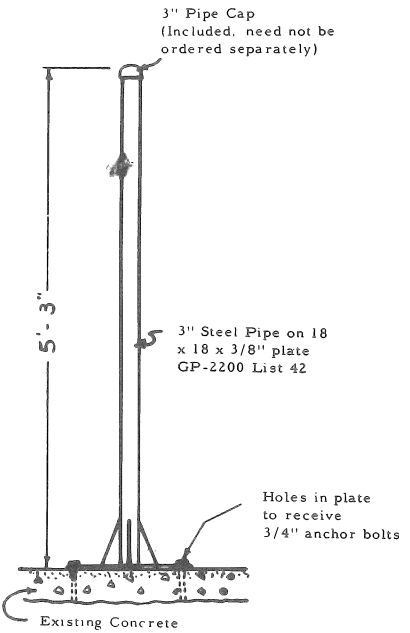
In standard brick wall, locate as many fastenings as practical in brick - avoid bolts in mortar.

In concrete block wall, locate as many fastenings as practical in solid sections of concrete block - avoid, where possible, the fastenings in the hollow sections of the concrete block.

SKETCH B

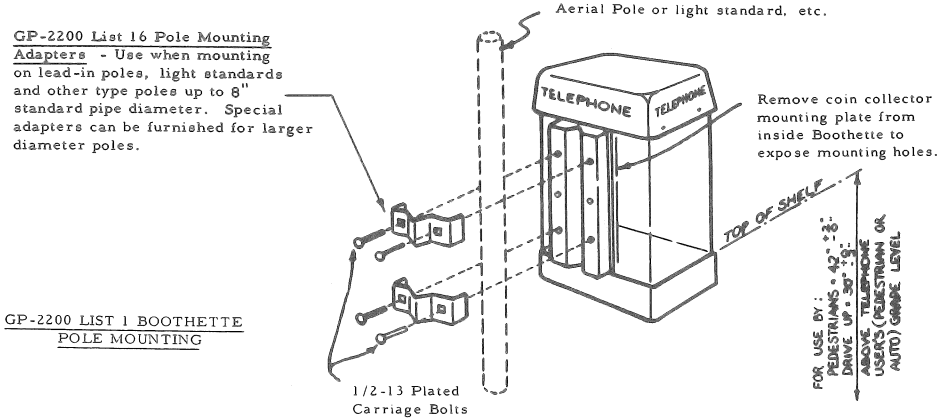


GP-2200 LIST 41 STEEL POLE


3" Pipe Cap
(Included, need not be ordered separately)
5'-3"
3" Steel Pipe on 18 x 18 x 3/8" plate
GP-2200 List 42
Holes in plate to receive 3/4" anchor bolts
Existing Concrete

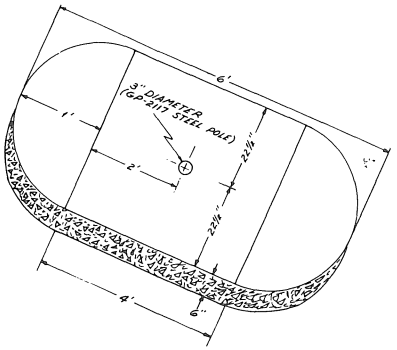
GP-2200 LIST 42 STEEL POLE

POLES FOR DUAL INSTALLATION FOR
WALK UP OR DRIVE UP WHERE NO SIGNS ARE USED

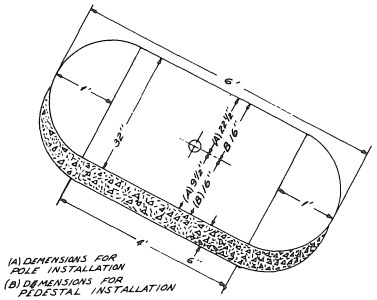

GP-2200 List 16 Pole Mounting Adapters - Use when mounting on lead-in poles, light standards and other type poles up to 8" standard pipe diameter. Special adapters can be furnished for larger diameter poles.
Aerial Pole or light standard, etc.
TELEPHONE
TELEPHONE
Remove coin collector mounting plate from inside Boothette to expose mounting holes.
TOP OF SHELF
FOR USE BY: PEDESTRIANS - 42"-48" ABOVE TELEPHONE USER'S (PEDESTRIAN OR AUTO) GRADE LEVEL
DRIVE UP - 30"-36"
1/2-13 Plated Carriage Bolts

GP-2200 LIST 1 BOOTHETTE
POLE MOUNTING

SKETCH C



SKETCH E
CONCRETE CURBING FOR
DOUBLE BOOTHETTE INSTALLATION
(BACK TO BACK POLE ARRANGEMENT)



SKETCH F
CONCRETE CURBING FOR
SINGLE BOOTHETTE INSTALLATION
(POLE AND PEDESTAL ARRANGEMENT)

6. WIRING

(A) ELECTRIC LIGHT WIRING

6.01 Electric light wiring and conduit will be provided by the customer or the Telephone Company. The Commercial Department representative will determine and indicate on the service order whether or not the Company will bear the expense of electric wiring and conduit. Where provided by the Telephone Company, the Plant Department will be responsible for making arrangements for its' installation. This wiring shall conform to the rules and regulations of the "National Electric Code" (Rules and Regulations of National Board of Fire Underwriters) and any supplemental local rules and regulations.

6.02 The wiring of the boothette is illustrated in Sketches G and H of this section. In addition, the following procedures and details are listed.

(a) After the boothette is installed, remove the fasteners marked "G" beneath the boothette and two doors will hinge downward.

(b) Mount sub-set and protector on wooden backboard installed on hinged door.

(c) Bring telephone service through outlet hole "B" to protector and to sub-set.

(d) Feed telephone service from sub-set into hole "A" and out through hole "E" to coin collector.

(e) The factory installed wiring from the dome light passes into hole at "F" and out through hole "C" to light switch.

(f) Bring the lighting power source into outlet hole "D". Connect one side of line through switch and splice other side to light wire.

(g) All prepay stations require grounding. Feed ground wire from ground stud into hole "E" and out through hole "E" to coin collector.

(h) Install ground wire from sub-set and protector to ground stud.

(i) Furnish additional brass washers for 3/8" ground stud as required.

(B) GROUNDS

6.03 The metal construction of the boothette necessitates certain precautions to insure adequate protection for those using the boothette.

6.04 If the neutral of the power supply serving the boothette is grounded on a water pipe and this service is furnished through grounded conduit attached to the boothette in a manner approved by the National Electric Code then no further grounding is required. In all other cases, the ground stud must be grounded using No. 14 ground wire. Refer to the BSP section concerning protector and signaling grounds for approved grounding mediums.

6.05 For illustrations showing the essential grounding requirements refer to the Bell System Practice section for "Booths - Outdoor Installations".

7. SIGNS

7.01 Service orders will specify type, number, and location of sign to be installed on boothette.

7.02 Refer to BSP C39.711, Issue C for details on the various signs offered for use with the boothette.

8. MAINTENANCE

8.01 A periodical survey of the boothette should be made, and the following steps performed.

(a) Check condition of the directories, directory binders, card frames, instruction cards and coin collector. Where necessary, take the required action to assure good appearance.

(b) Check coin collectors and boothette metal housing for grounded or energized housings. Make all tests on station and collector equipment in accordance with standard practices.

(c) Check the approach to the boothette, and remove all hazards.

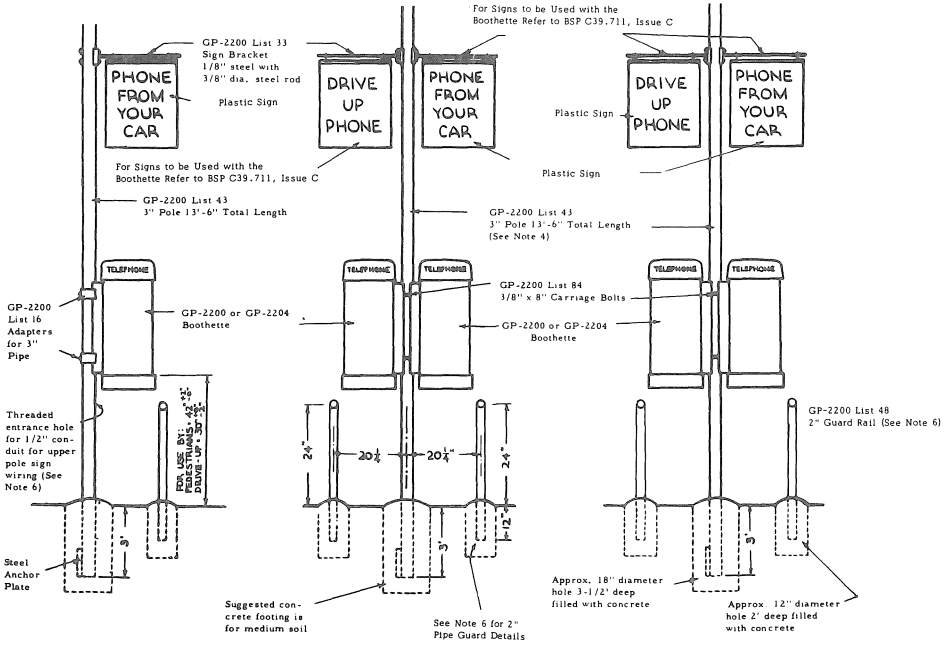
(d) Where boothette equipment is damaged by vehicular traffic, equipment should not be reconditioned until the supervisor has determined whether protective bumper post iron railings are required to protect the boothette equipment, or whether the boothette should be relocated.

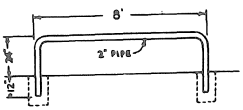
(e) Check for and replace all checked or broken plastic panels or signs. Replace bulbs and lamps as required.

(f) For surface protection, the steel pole or pedestal with associated metal fittings should be repainted periodically with a good grade of aluminum paint. The frequency of this procedure should be determined by local conditions and appearance.

CAUTION: THE PLEXIGLASS HOUSING IS SUBJECT TO INJURY BY DUST AND OTHER ABRASIVE PARTICLES IF ORDINARY CLEANING METHODS ARE USED. FOR CLEANING PLASTIC SURFACES OF BOOTHETTE, USE SOFT COTTON CLOTH WITH WATER AND MILD UNGRANULATED HOUSEHOLD DETERGENTS.

8.02 The rain shield and directory holder have been omitted from the new design boothette. When these items are broken in existing installations, replacement parts are not obtainable. Therefore, the broken parts should be removed and discarded.


GP-2200 List 33
Sign Bracket
1/8" steel with
3/8" dia. steel rod
Plastic Sign
PHONE FROM YOUR CAR
DRIVE UP PHONE
For Signs to be Used with the Boothette Refer to BSP C39.711, Issue C
GP-2200 List 43
3" Pole 13'-6" Total Length
GP-2200 List 43
3" Pole 13'-6" Total Length
(See Note 4)
GP-2200 List 84
3/8" x 8" Carriage Bolts
GP-2200 List 16
Adapters for 3" Pipe
GP-2200 or GP-2204
Boothette
Threaded entrance hole for 1/2" conduit for upper pole sign wiring (See Note 6)
FOR USE BY PEDESTRIANS DRIVE UP
Steel Anchor Plate
3'
24"
20¼"
20¼"
12"
GP-2200 List 48
2" Guard Rail (See Note 6)
Approx. 18" diameter hole 3-1/2' deep filled with concrete
Approx. 12" diameter hole 2' deep filled with concrete
Suggested concrete footing is for medium soil
See Note 6 for 2" Pipe Guard Details

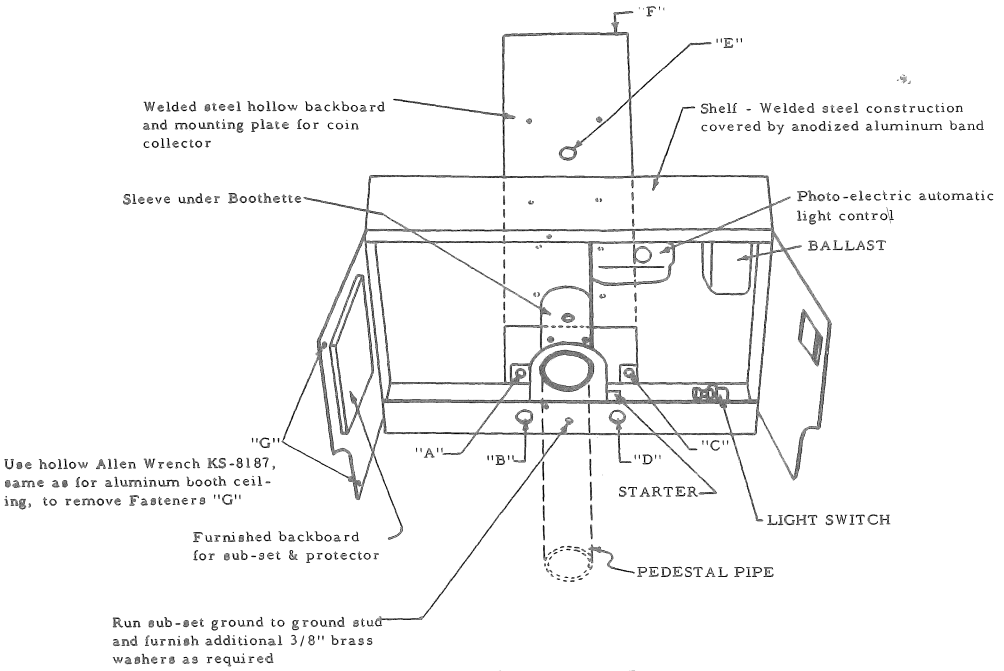


GP-2200 List 48
2" Pipe Guard

NOTES:

1. Suggested typical installation arrangements that may be used as shown or modified as location requires.
2. Any part of suggested arrangements may be ordered.
3. The GP-2200 List 43 Steel Poles should be installed with 3' below grade level.
4. Boothettes and Signs may be installed on existing poles. Specify pole diameter.
5. GP-2200 List 41 Pipe is drilled so elect rical service and ground wires may be run inside pipe.
6. The installation of 2" Pipe Guards (GP-2200 List 48), is suggested as a preferred arrangement, but a concrete island, curbing, or posts may be used.

SKETCH D


"F"
"E"
Welded steel hollow backboard and mounting plate for coin collector
Shelf - Welded steel construction covered by anodized aluminum band
Sleeve under Boothette
Photo-electric automatic light control
BALLAST
"G"
Use hollow Allen Wrench KS-8187, same as for aluminum booth ceiling, to remove Fasteners "G"
"A"
"B"
"D"
"C"
STARTER
LIGHT SWITCH
Furnished backboard for sub-set & protector
PEDESTAL PIPE
Run sub-set ground to ground stud and furnish additional 3/8" brass washers as required

EQUIPMENT CABINET
BOOTHETTE BASE

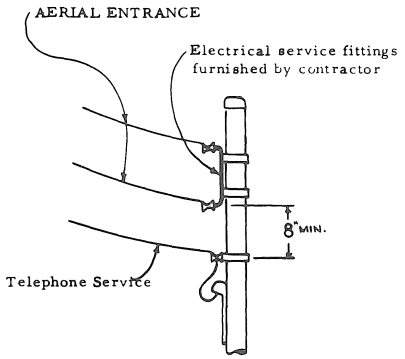
INSTALLATION WIRING DETAILS:

1. After the Boothette is installed, remove the fasteners marked "G" beneath the Boothette and the doors will hinge downward.
2. Mount sub-set and protector on wooden backboard installed on the hinged door to the left.
3. Run telephone service through outlet hole "B" to protector and sub-set.
4. Feed telephone service from sub-set into hole "A" and out through hole "E" with the coin collector mounting plate in place.
5. Install coin collector.
6. The factory installed wiring from the dome light passes through hole "F" and into the splice compartment through hole "C".
7. Run electrical supply into equipment cabinet at hole "D".

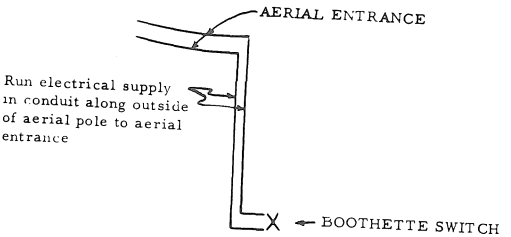
GROUNDING:

1. All prepay stations require grounding. Water pipe is preferred, but where not available use ground rod.
2. Install ground wire from sub-set to ground stud.
3. For wall and pole mounted Boothettes, bring ground wire to ground stud on Boothette.
4. Furnish additional brass washers for 3/8" ground stud as required.

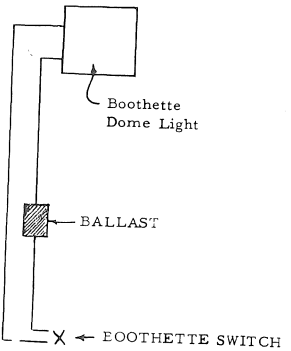
SKETCH G

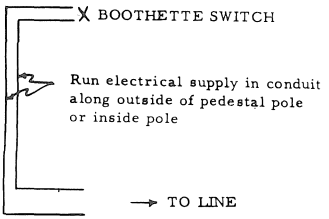


A TYPICAL AERIAL ENTRANCE ARRANGEMENT



TYPICAL WIRING AERIAL ENTRANCE TO BOOTHETTE





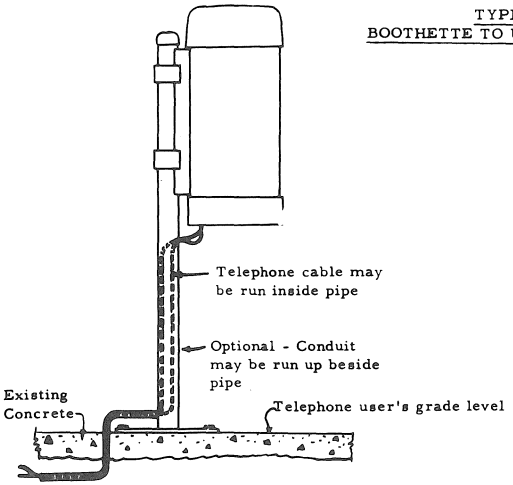
TYPICAL WIRING BOOTHETTE TO UNDERGROUND SUPPLY

NOTE:

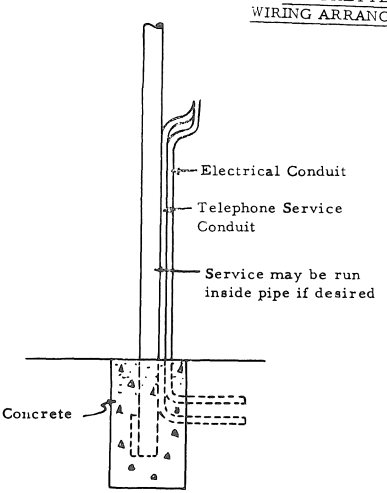
WIRING ARRANGEMENT

Work in connection with the installation of electric service wires, or extension of such wiring, should be provided with local regulations and conform to the National Electrical Code.

BOOTHETTE WIRING ARRANGEMENT


Telephone cable may be run inside pipe
Optional - Conduit may be run up beside pipe
Existing Concrete
Telephone user's grade level

A TYPICAL GROUND ENTRANCE WITH PEDESTAL OR POLE FLANGED BASE



A TYPICAL GROUND ENTRANCE

SKETCH H

WALK-UP, DRIVE-UP PUBLIC TELEPHONES

KS-19426 MOUNTING

IDENTIFICATION

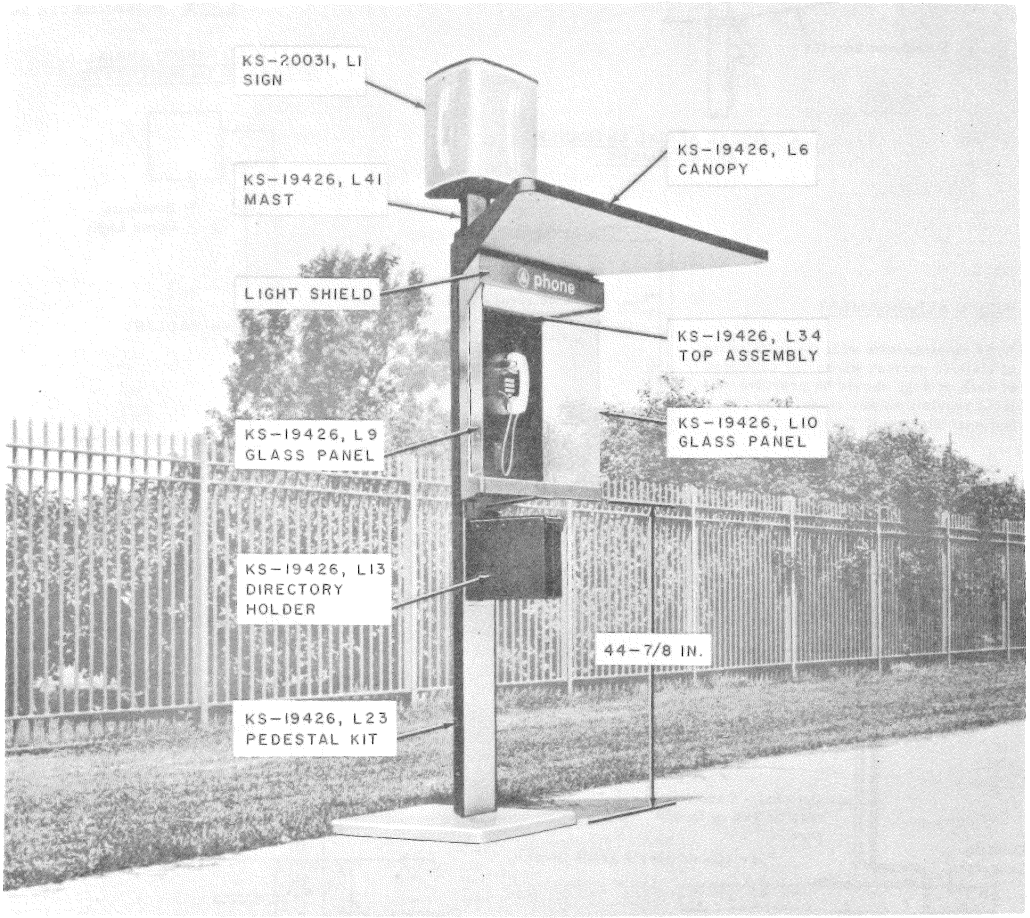


Fig. 1—KS-19426 Mounting For Walk-Up Outdoor Service With List 41 Mast and KS-20031 Illuminated Sign

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1. GENERAL

1.01 This section is reissued to:

- Revise illustrations to show new signs.
- Revise Table A to include information previously contained in Part 5.
- Add information on List 41 mast.
- Add information on KS-20031, List 1 sign.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

2. IDENTIFICATION

2.01 The KS-19426 mounting consists of a 90-degree wedge-shaped housing for post- or wall-mounting of coin telephones (Fig. 1 through 5).

2.02 Post mountings (Fig. 1 through 3) may be installed singly or in multiple combinations as shown in Fig. 6.

2.03 Wall mountings (Fig. 4 and 5) may be installed on a flat wall, in a corner, or around a corner in various multiple combinations as shown in Fig. 7.

2.04 A wedge-shaped canopy (Fig. 1) is available for installation above a single housing to protect the user from the weather. Canopies may also be used in multiple arrangements.

2.05 The basic housing (Fig. 8) consists of a top section containing a light fixture and light shield, side cutouts for replaceable panels, an integral backboard for mounting coin telephones, and a stainless steel writing shelf.

2.06 The approximate overall dimensions of the basic housing are 30 inches high by 30 inches wide across the front edge of the writing shelf. The depth from the apex to the front edge of the shelf is approximately 15 inches.

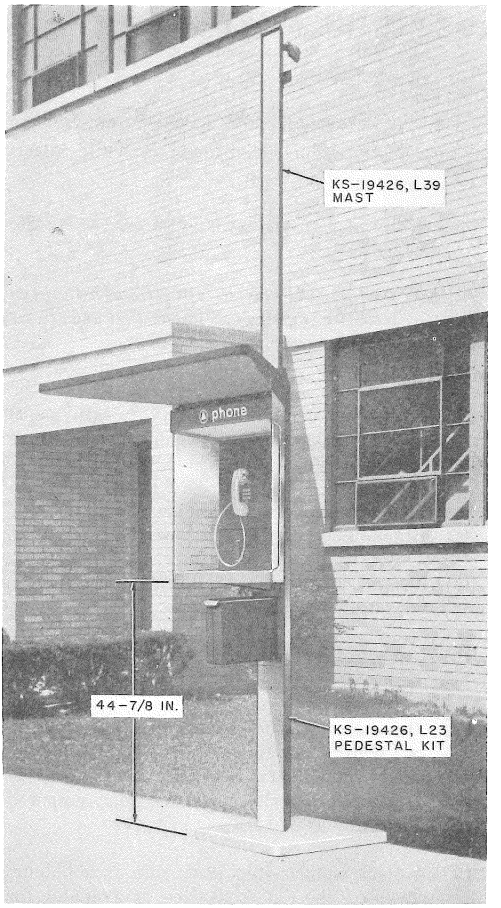


Fig. 2—KS-19426 Mounting For Walk-Up Outdoor Service With List 39 Mast

2.07 The rear of the housing is provided with holes for attaching to post or supports.

2.08 The light shield is a translucent panel which illuminates the coin telephone writing shelf and the surrounding area. The light shield is available in various options as follows:

- White background with a Bell System emblem and word "phone" printed in blue letters (KS-19426, List 45)
- Blue background with a Bell System emblem and word "phone" printed in white letters (KS-19426, List 46)
- White background with no letters (KS-19426, List 47)

Unless otherwise specified housings will be equipped with List 46 light shields.

2.09 The 24-inch lamp (F-20-T12-CW or equivalent) is not furnished with housing and must be ordered separately.

2.10 Two directory holders are available for attachment beneath the basic housing.

(a) List 13 directory holder (Fig. 1 through 3) for outdoor use.

(b) List 14 directory holder (Fig. 4 and 5) for indoor use.

2.11 The housing side panels are available in two widths; 8-1/16 inches and 17-9/16 inches. These panels extend outward on each side to provide privacy. Acoustic material panels and clear tempered glass panels are available.

2.12 A black angular steel post, with an aluminum cover on the flat front face, is available for drive-up or walk-up service (Fig. 9 and 10).

2.13 Two masts are available for bringing overhead power and telephone wires into an outdoor installation.

(a) List 39 mast (Fig. 2) for use on outdoor mounting with canopy.

(b) List 40 mast (Fig. 3) for use on outdoor mounting without canopy.

2.14 A KS-20031, List 1 sign, illuminated with a special 100-watt mercury lamp, is available for use with the mounting. If a List 39, or List 40 mast is not used, a List 41 mast must be ordered for mounting the sign (Fig. 1). See Section 508-810-202 for additional information on the sign.

Fig. 3—KS-19426 Mounting for Drive-Up Service With List 40 Mast.

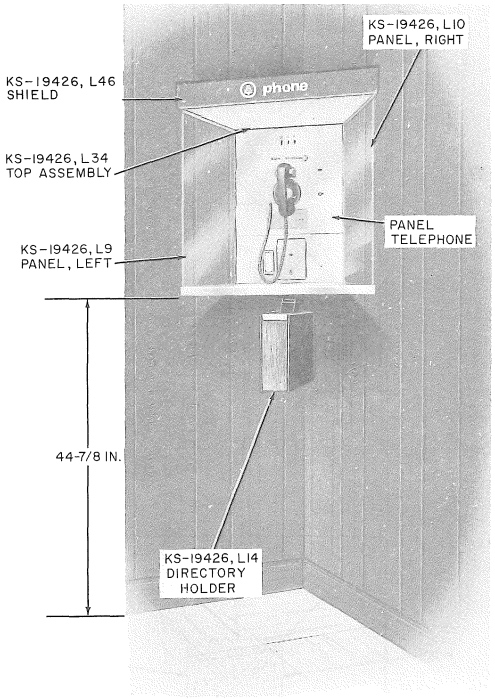


Fig. 4—KS-19426 Mounting in Corner

3. TELEPHONE SETS

3.01 The KS-19426 mounting is designed primarily for panel-type coin telephone sets. These sets fill the space between the light shield and the shelf.

List 34 top assembly must be installed with a panel-type coin telephone.

3.02 The 1A-type coin telephone may be used with KS-19426 mounting but requires a List 7 installation kit. This kit consists of mounting screws, left and right side shrouds, and associated brackets. (Fig. 11).

3.03 The 200-type coin collector, plus 685-type subscriber set, may also be used with KS-19426 mounting but requires a List 8 installation kit. This kit consists of mounting screws, 685-type subscriber set adapter, left and right side shrouds, bottom plate, and subscriber set cover plate (Fig. 12).

4. WIRING

4.01 Electric power and telephone line entrance may be at the top or the bottom of a post or through a mast. Wall mountings may have entrance from behind a housing.

4.02 Connections to the power outlet box and telephone protector are in the cavity behind the light shield. Removal of the shield allows access to connections.

4.03 The housing is prewired from the power receptacle to a terminal strip located in a junction box on the housing under the writing shelf.

4.04 A circuit breaker for switching power on and off can be mounted in the junction box located in the lower section of the post when housings are post-mounted. Access is through a small door in the post cover.

4.05 A List 16 wire housing (Fig. 13) provides a channel through which interconnecting wires are to be run when mountings are installed back-to-back on posts.

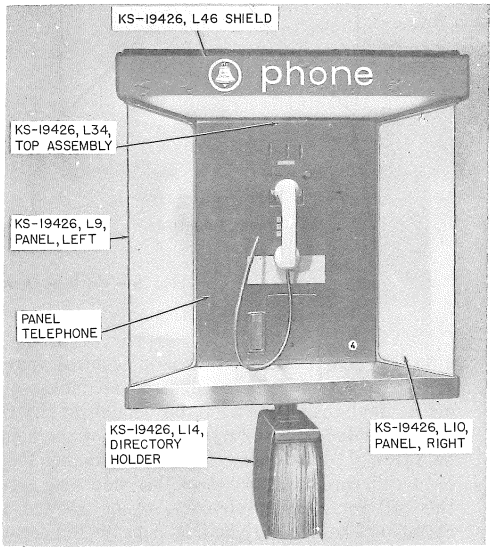


Fig. 5—KS-19426 Mounting on Flat Surface

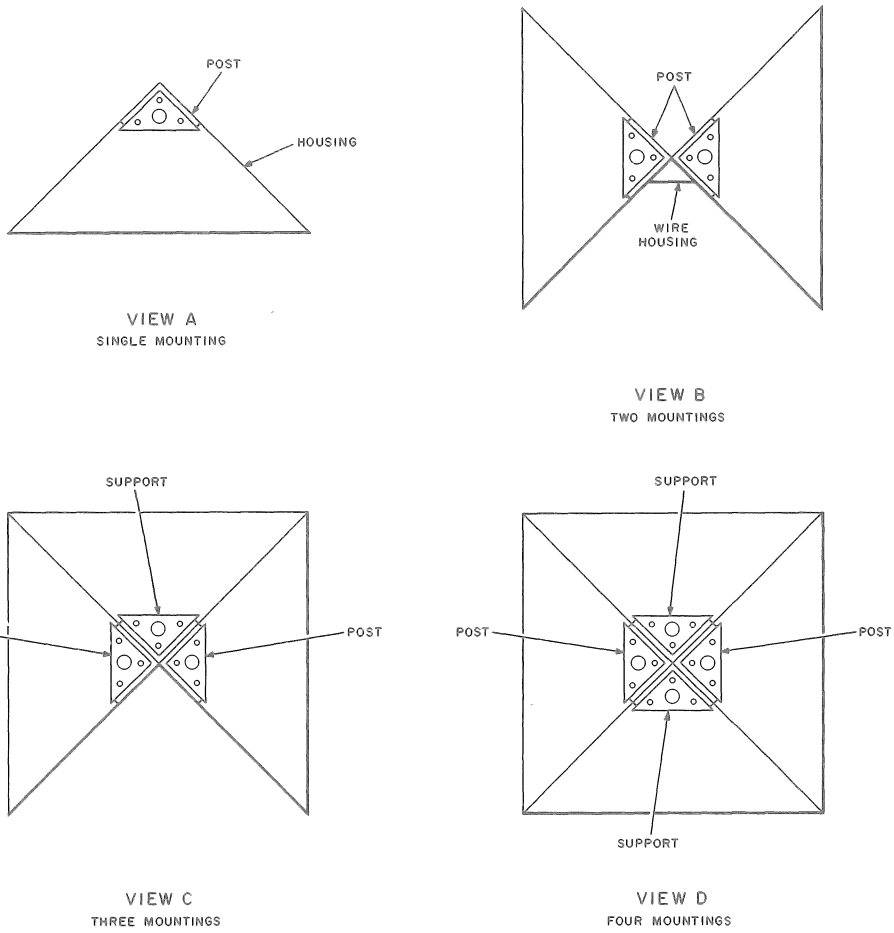


Fig. 6—Various Arrangements For Post Mountings

4.06 A KS-19261, List 3 light control may be used to switch the light on at darkness and off at daylight. A bracket for mounting the relay box is welded onto the upper portion of the housing on the right-hand side. The wire channel for the light cell cord is attached to this side and permits the cell, or sensing element, to be located in a metal box below the shelf in a protected location. See Section 508-825-100 for additional information on the light control.

5. ORDERING INFORMATION

5.01 Table A lists and describes all basic components of the KS-19426 mounting.

5.02 Table B describes post and pedestal requirements for various applications.

TABLE A

SUMMARY OF LIST NUMBERS

KS-19426 LIST NO.	DESCRIPTION	REMARKS
1	Housing, Fig. 8	Includes KS-19426, List 46 light shield unless List 45 or 47 is specified
2	Post	Embedded in concrete for walk-up service
3		Embedded in concrete for drive-up service
4	Support, Fig. 14 and 15	For mounting List 1 housing in a corner, at right angle on a wall, or between back-to-back housings on post when housings are installed in multiples of three and four
5		For mounting List 1 housing on flat surface
6	Canopy* Fig. 1	Weather protection for outdoor, walk-up installations
7	Installation Kit, Fig. 11 and 12	For use with 1A-type telephone
8		For use with 200-type telephone
9	Glass Panel, Fig. 1	Left side, 8-1/16 inches wide
10		Right side, 8-1/16 inches wide
11	Acoustic Panel, Fig. 11 and 12	Left side, 8-1/16 inches wide
12		Right side, 8-1/16 inches wide
13	Directory Holder, Fig. 1 through 5	For outdoor use
14		For indoor use
16	Wire Housing, Fig. 13	Enclosure for wiring between back-to-back housings
17	Junction Box Fig. 10	For wire connection in post or for circuitbreaker
18	Cardholder Fig. 12	For use with 200-type coin collector/telephone
20	Glass Panel*	Left side, 17-9/16 inches wide
21		Right side, 17-9/16 inches wide
22	Post, Fig. 10	For pedestal mounting, walk-up service (used as repair part or for extending single installation to multiple installation)
23	Pedestal Kit, Fig. 10 (typical)	For walk-up service with single housing (includes post, base, and covers)

TABLE A (Cont)

SUMMARY OF LIST NUMBERS

KS-19426 LIST NO.	DESCRIPTION		REMARKS	
24	Multiplying Strip	Left Side	Used in place of one side panel when housings are installed adjacent to each other	
25		Right Side		
26	Acoustic Panel*		Left side, 17-9/16 inches wide	
27			Right side, 17-9/16 inches wide	
28	Post, Fig. 10		For pedestal mounting, drive-up service (used as repair part or for extending single installation to multiple installation)	
29	Pedestal Kit, Fig. 10 (typical)		For walk-up service, back-to-back installation (includes 2 posts, base, and covers)	
30			For drive-up service with single housing (includes post, base, and covers)	
31			For drive-up service, back-to-back installation (includes 2 posts, base, and covers)	
32	Cover, Fig. 10		No cutout	Used as repair parts only
33			Cutout for post	
34	Top Assembly		Use with all panel telephones to support rear edge of sign shield	
39	Mast, Fig. 1, 2, and 3		For overhead power and/or KS-20031, List 1 sign where canopy exists	
40			For overhead power and/or KS-20031, List 1 sign where canopy does not exist	
41			For mounting KS-20031, List 1 sign on canopy only	
45	Light Shield		White background – blue letters	
46	Light Shield		Blue background – white letters Furnished with List 1 housing unless otherwise specified	
47	Light Shield		White background – no letters	

*Do not use canopies nor wide panels on drive-up mountings.

TABLE B

POST AND PEDESTAL APPLICATIONS

ARRANGEMENT	NUMBER OF HOUSINGS	TYPE OF INSTALLATION	REQUIRED COMPONENTS
Single	1	Walk-up	1 Pedestal Kit, KS-19426, L23 *or* 1 Post, KS-19426, L2 (embedded)
		Drive-up	1 Pedestal Kit, KS-19426, L30 *or* 1 Post, KS-19426, L3 (embedded)
Back-to-Back	2	Walk-up	1 Pedestal Kit, KS-19426, L29 *or* 2 Posts, KS-19426, L2 (embedded) *plus* 1 Wire Housing, KS-19426, L16
		Drive-up	1 Pedestal Kit, KS-19426, L31 *or* 2 Posts, KS-19426, L3 (embedded) *plus* 1 Wire Housing, KS-19426, L16
Cluster of Three	3	Walk-up	1 Pedestal Kit, KS-19426, L29 *or* 2 Posts, KS-19426, L2 (embedded) *plus* 1 Support, KS-19426, L4
Cluster of Four	4	Walk-up	1 Pedestal Kit, KS-19426, L29 *or* 2 Posts, KS-19426, L2 (embedded) *plus* 2 Supports, KS-19426, L4

5.03 ***Ordering Examples (See Table A)***

One 24 inch, F-20-T12-CW (or equivalent) lamp must be ordered separately for each housing.

(a) For pedestal-mounted, single unit, 1A-type coin telephone, for walk-up outdoor service with a canopy, narrow glass panels, illuminated sign, and a mast for overhead power and telephone line:

1 Pedestal Kit, KS-19426, L23

1 Housing, KS-19426, L1

1 Mast, KS-19426, L39

1 Canopy, KS-19426, L6

1 Installation Kit, KS-19426, L7

1 Panel, Left, KS-19426, L9

1 Panel, Right, KS-19426, L10

1 Directory Holder, KS-19426, L13

1 Sign, KS-20031, L1

(b) For two wall-mounted units at right angles, without canopies, with wide acoustic panels, for use with the 200-type coin collectors:

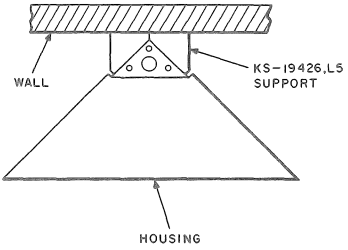
2 Housings, KS-19426, L1

2 Supports, KS-19426, L4

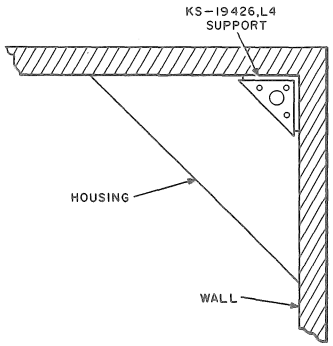
2 Installation Kits, KS-19426, L8

2 Panels, Left, KS-19426, L26 (see note)

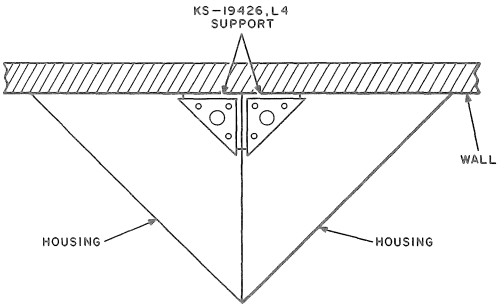
1 Panel, Right, KS-19426, L27 (see note)



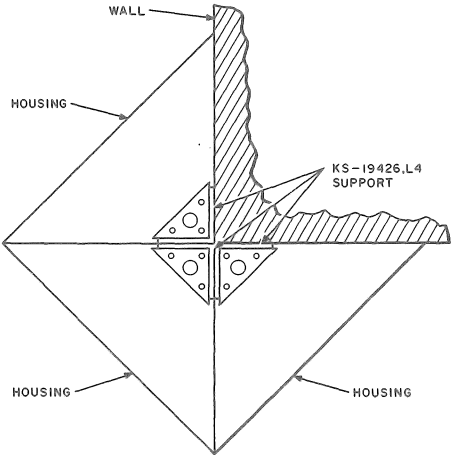
VIEW A
SINGLE MOUNTING
FLAT SURFACE



VIEW B
SINGLE MOUNTING, CORNER



VIEW C
TWO WALL MOUNTINGS
AT RIGHT ANGLES



VIEW D
THREE MOUNTINGS
AROUND CORNER

Fig. 7—Various Arrangements For Wall Mountings

1 Multiplying Strip, Right, KS-19426, L25 (see note)

2 Directory Holders, KS-19426, L14 (L13 if outside)

Note: Two right panels, one left panel, and one KS-19426, List 24 left multiplying strip, may be used.

(c) For pedestal-mounted, back-to-back, for drive-up service with panel telephone, narrow glass panels; to be installed with underground power and telephone line:

1 Pedestal Kit, KS-19426, L31

2 Directory Holders, KS-19426, L13

2 Housings, KS-19426, L1

2 Panels, Left, KS-19426, L9

2 Panels, Right. KS-19426, L10

1 Wire Housing, KS-19426, L16

2 Top Assemblies, KS-19426, L34

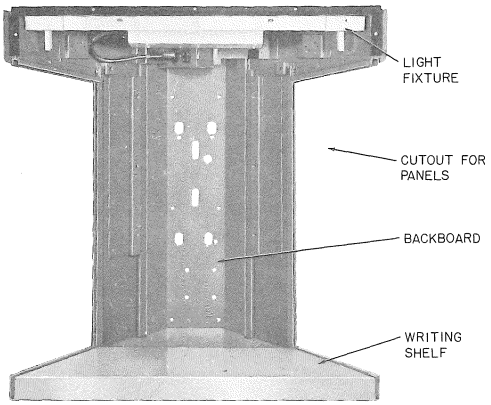


Fig. 8—KS-19426, List 1 Housing Less Light Shield

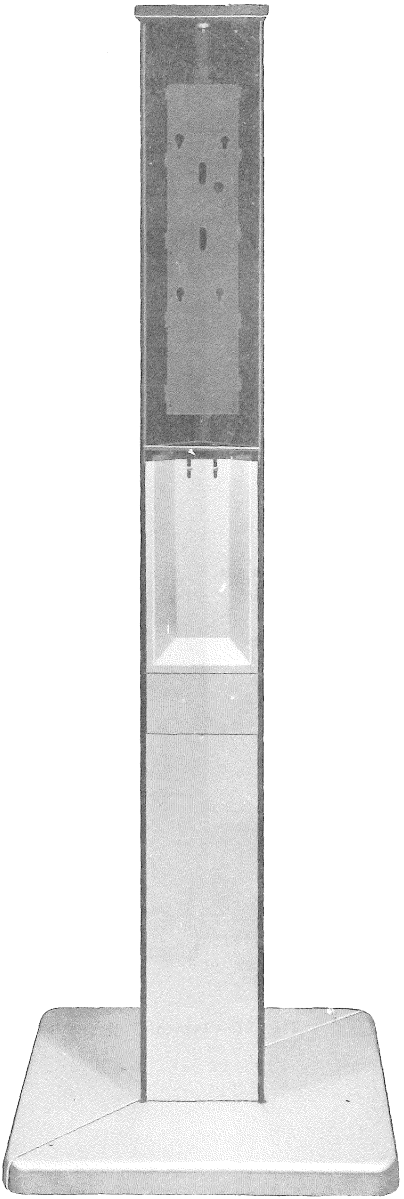


Fig. 9—Post Mounted on Pedestal

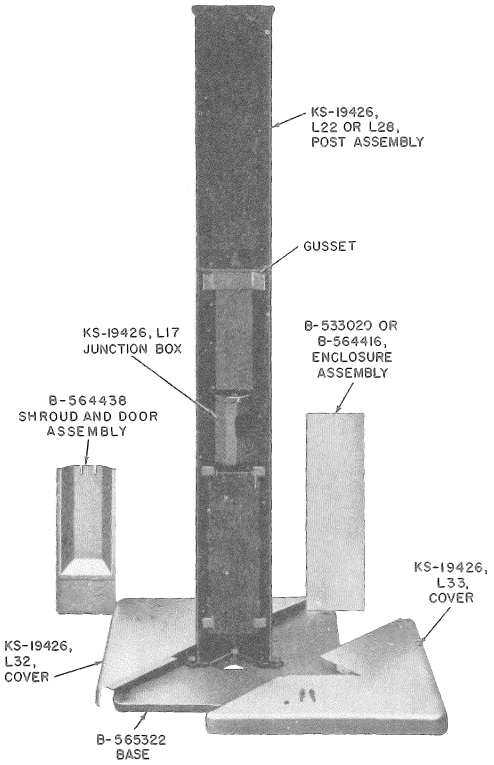


Fig. 10—Typical Pedestal Kit

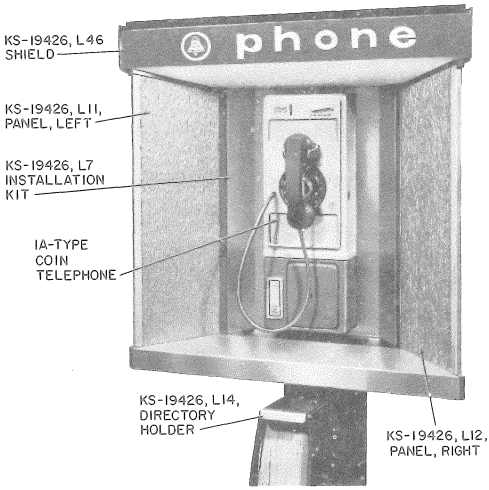


Fig. 11—KS-19426 Mounting Using 1A-Type Coin Telephone

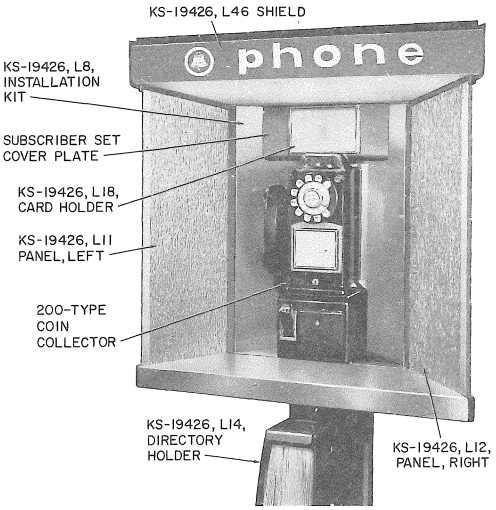
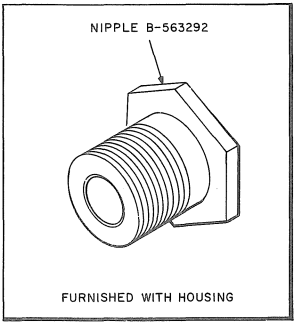


Fig. 12—KS-19426 Mounting Using 200-Type Coin Collector



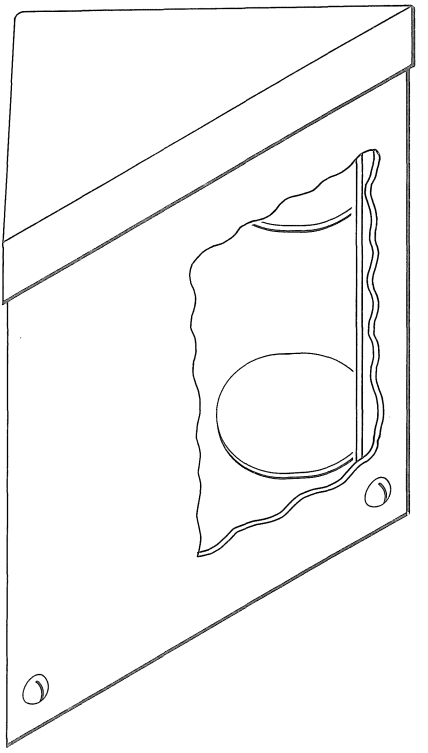


Fig. 13—KS-19426 List 16 Wire Housing

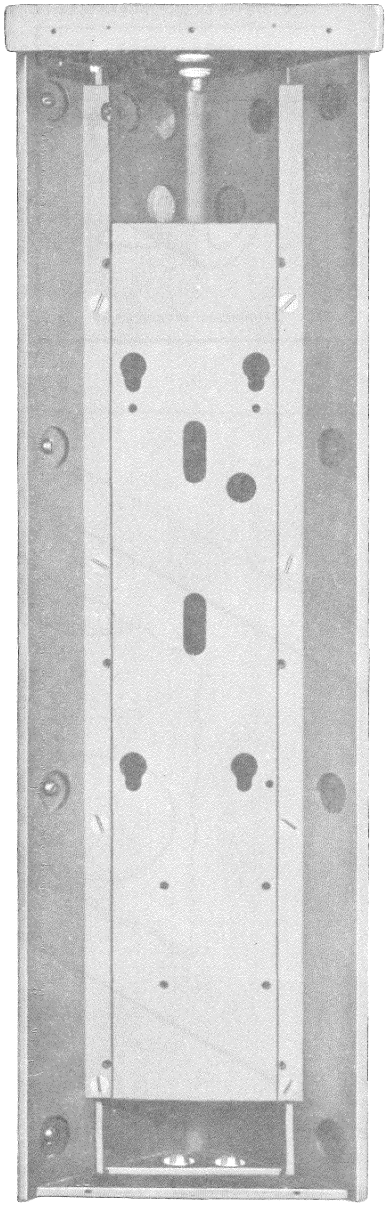


Fig. 14—KS-19426, List 4 Support

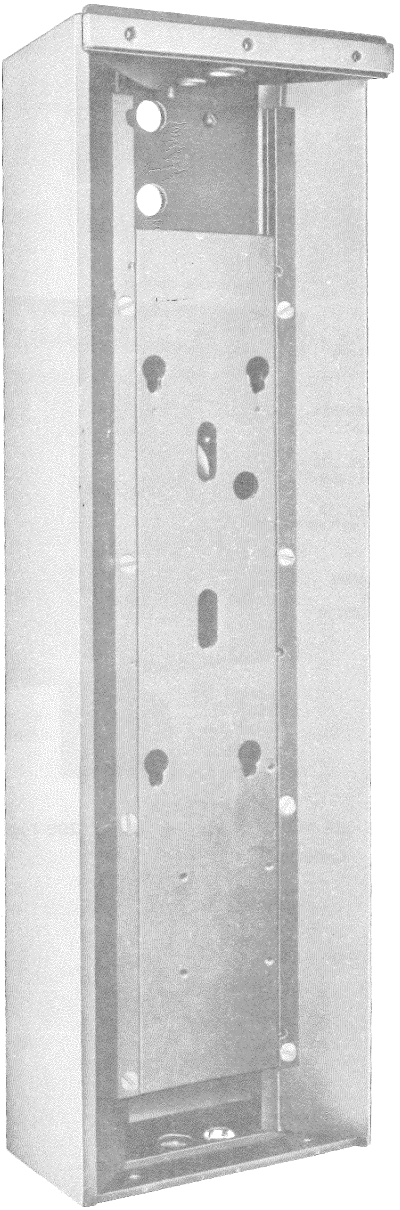


Fig. 15—KS-19426, List 5 Support

WALK-UP, DRIVE-UP PUBLIC TELEPHONES
KS-19426 MOUNTING
INSTALLATION AND MAINTENANCE

1. GENERAL

1.001 This addendum supplements Section 508-470-200, Issue 3 and is reissued to change Paragraph Numbers due to reissuance of the Main Section.

1.002 This addendum provides ordering and installation information on the SS-3500 Directory Holder which may be used with the KS-19426 Mounting.

1.003 The SS-3500 holder may be used at both indoor and outdoor locations in lieu of the KS-19426, L13 and L14 holders when specified by the Commercial Department.

1.004 The SS-3500 Directory Holder can be secured through normal ordering procedures.

2. INSTALLATION

The following change will apply to part 2 of the Section:

1. 2.01 (aj), (3) added

2.01 (aj)(3) The SS-3500 Directory Holder is mounted under the shelf using the four 8-32X1/2 inch screws that are supplied with the holder. The holder will be mounted using the first two sets of mounting holes.

FIGURE 1
DIRECTORY HOLDER IN NORMAL POSITION

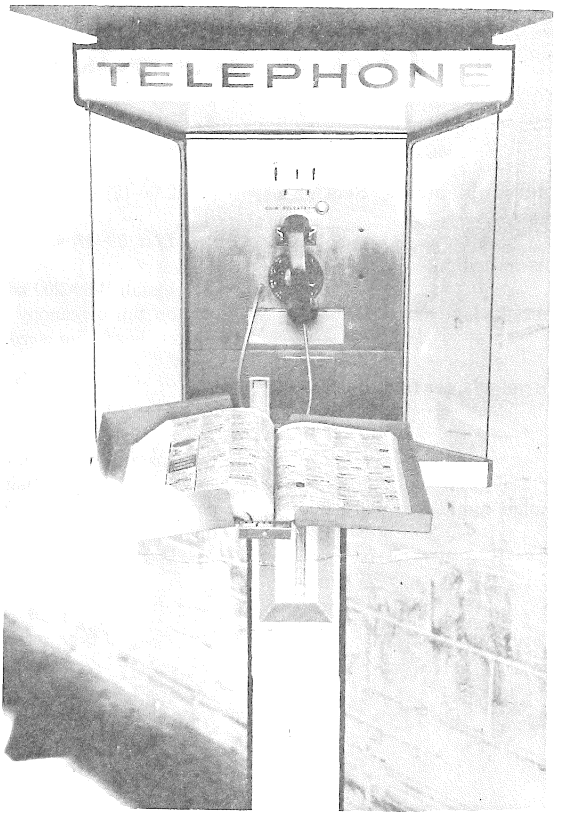


FIGURE 2
DIRECTORY HOLDER IN OPEN POSITION

WALK-UP, DRIVE-UP PUBLIC TELEPHONES
KS-19426 MOUNTING
INSTALLATION AND MAINTENANCE

1. GENERAL

1.001 This addendum supplements Section 508-470-200, Issue 4.

1.002 This addendum is issued to:

- Change part number of adapter from B-962201 to B-696200.
- Change part number of adapter from B-696200 to B-696201

2. INSTALLATION

The following change applies to Part 2 of the section.

(a) 2.05 (1)—revised

(b) 2.06 (2)—revised

2.05 ***List 39 Mast***

(1) Install B-696200 adapter with neoprene gasket on top of canopy using two 3/8-16 by 7 hex socket head cap screws. Leave hole at apex open.

2.06 ***List 40 Mast***

(2) Install B-696201 adapter with neoprene gasket on top of post using two 3/8-16 by 1-1/4 hex socket head cap screws. Leave hole at apex open.

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WALK-UP, DRIVE-UP PUBLIC TELEPHONES
KS-19426 MOUNTING
INSTALLATION AND MAINTENANCE

1. GENERAL

1.01 This section is reissued to:

- Revise illustrations to include new signs.
- Add information on KS-19426, List 41 mast and KS-20031, List 1 sign.
- Delete information on KS-19426, List 19 emblem.
- Delete grounding information which is contained in Section 508-100-100.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

2. INSTALLATION

PEDESTAL MOUNTINGS (Fig. 1 and 2)

Note 1: Pedestal kits may be installed on concrete or wooden surfaces. When asphalt surfaces are used, a concrete base 24-inches square and 36-inches deep is required.

Note 2: Wooden surfaces must have a minimum thickness of 2 inches.

Note 3: The concrete base for walk-up installations shall be flush with ground level.

Note 4: The concrete base for drive-up installations shall extend 6 inches above road level.

Note 5: Where a curb does not exist to protect drive-up mountings from damage by vehicles, a concrete base 48-inches long, 24-inches wide, and 36-inches deep shall be embedded in the ground with the 24-inch dimension paralleling the road and 6 inches extending above ground level.

Note 6: Where a curb already exists the concrete base for a drive-up mounting is required to be only 24-inches deep.

2.01 *Base*

(a) Place base (Fig. 3) in the exact position that pedestal will be mounted.

(b) Using the base as a template, mark the location for eight mounting holes.

When underground entrance is made, the front-center mounting fastener may be sacrificed.

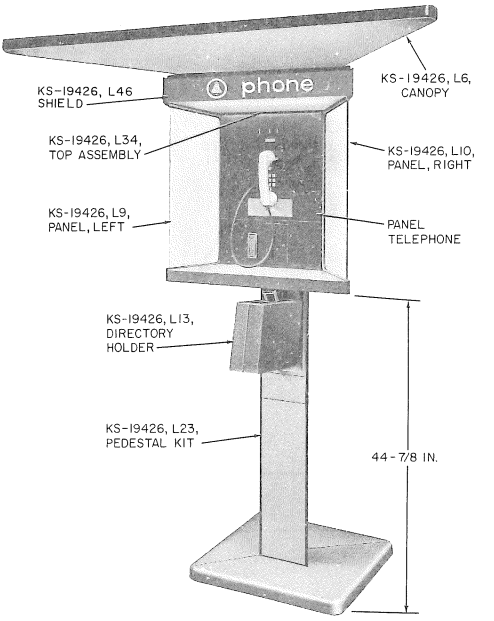

Fig. 1—KS-19426 Mounting for Walk-Up Service

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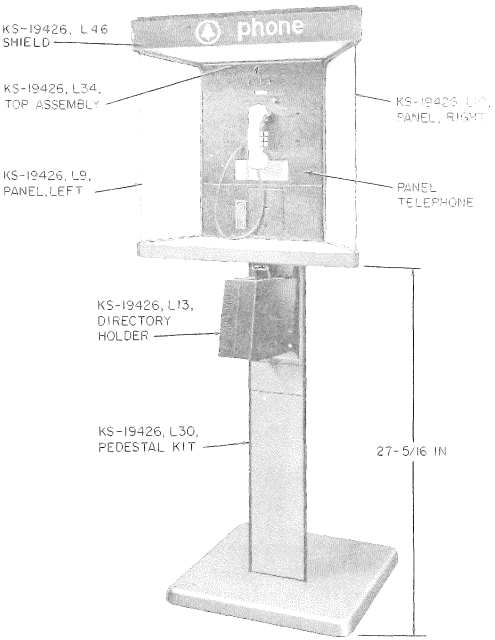
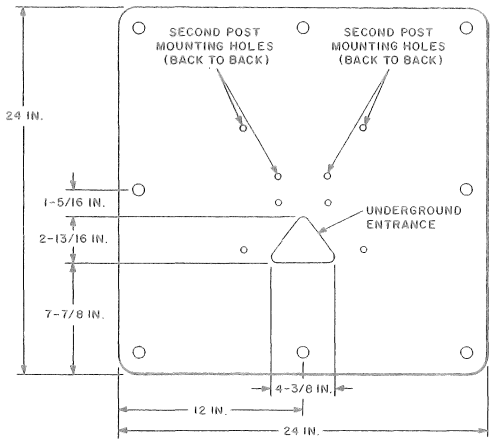


Fig. 2—KS-19426 Mounting for Drive-Up Service



FRONT

Fig. 3—B-565322 Base

(c) Remove the base from the drilling area.

THINK *Eye protection shall be worn while drilling.*

(d) The base is secured to a masonry surface with 1/2 by 3 machine bolts. Select the proper machine bolt anchor to accommodate this size bolt and drill holes to accept anchor. See appropriate Plant Series Section on machine bolt anchors.

(e) The base is secured to a wooden surface with 5/8 by 3 lag screws. Drill 1/2-inch hole 2 inches deep for these screws.

(f) Secure base to mounting surface using bolts described in (d) or (e).

Note: The baseplate must be level to ensure proper operation of the coin collector or telephone. Use shimming washers as necessary to ensure leveling.

2.02 *Post*

(a) Loosen three tamper proof screws and remove B-564438 shroud and door assembly from the post(s) (Fig. 4).

(b) Remove B-533020 or B-564416 enclosure assembly (Fig. 4) from the post(s) by sliding up and disengaging clips.

(c) Install the post to the base over the underground entrance hole using four 5/8-11 by 1-1/2 hex head bolts. Do not tighten bolts. See Fig. 5 for installation requirements.

(d) For back-to-back installations, secure the second post to the base in the position provided using bolts as described in (c). Do not tighten bolts.

READ *When assembling posts back-to-back with wire housing or supports, do not tighten bolts securely until all parts have been mounted. This allows for final alignment before tightening bolts.*

(e) For back-to-back installations (View B, Fig. 6), install KS-19426, List 16 wire housing between the two posts using the four nipples supplied with housing. Install wire housing with

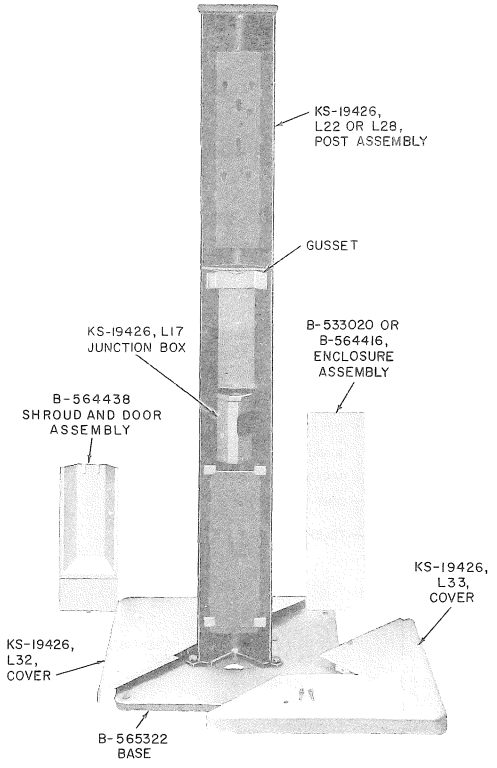


Fig. 4—Installation of Base and Post Covers

the lip flush with top of posts. Refer to Section 508-470-100 for illustration of wire housing.

(f) For cluster mounting installations (Views C and D, Fig. 6) install KS-19426, List 4 support(s) between the posts using six 1/4-20 by 1/2 hex head bolts for each support. See Section 508-470-100 for illustration of List 4 support.

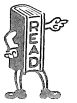
(g) Ensure that post(s) are plumb and tighten mounting bolts.

(h) If this installation is to have underground wiring, install telephone wiring at this time using the right-hand hole in the gusset (Fig. 4).

2.03 *List 1 Housing*

(a) Remove two screws and remove light fixture from housing.

(b) Install KS-19426, List 1 housing on post(s) and/or support(s) using six No. 8-32 by 3/8 flathead screws and three No. 8-32 by 3/8 round head screws. Install round head screws at the top.



Ensure that neoprene gasket (furnished with housing) is installed between housing and post(s) and/or support(s) across the top.

(c) For multiple installations, tie the housings together using 1/4-20 by 1/2 machine bolts. Ensure that front edges of housings are even.

Note: One knockout is located behind the light fixture on each side of the housing for the bolts.

(d) Install light fixture, removed in (a), using two No. 8-32 by 1/4 round head screws. Ensure that back edge engages bracket on inside-top of housing.

2.04 *List 6 Canopy:* Install KS-19426, List 6 canopy (Fig. 1), if required, as follows:

If a mast for overhead wiring is used, install B-564433 fitting inside canopy into threaded hole in post. This will separate the telephone and power wires. See 2.05 for installation of mast.

(1) Remove and discard three machine bolts from the top of post(s) and/or support(s).

(2) Place canopy on post or support.

(3) Place B-563018 plate and neoprene gasket on top of canopy at the apex.

(4) Secure canopy to post and/or support using one 3/8-16 by 6-3/4 hex head bolt (at apex) and two 3/8-16 by 6-1/2 hex head bolts which are furnished with canopy.

(5) Unless a mast is used, plug up the two wiring holes in B-563018 plate using the pipe plugs furnished.

(6) For multiple installations, tie the canopies together, 4 inches from the front corners, using No. 12-24 by 3/4 machine bolts and No. 12-24 hex nuts.

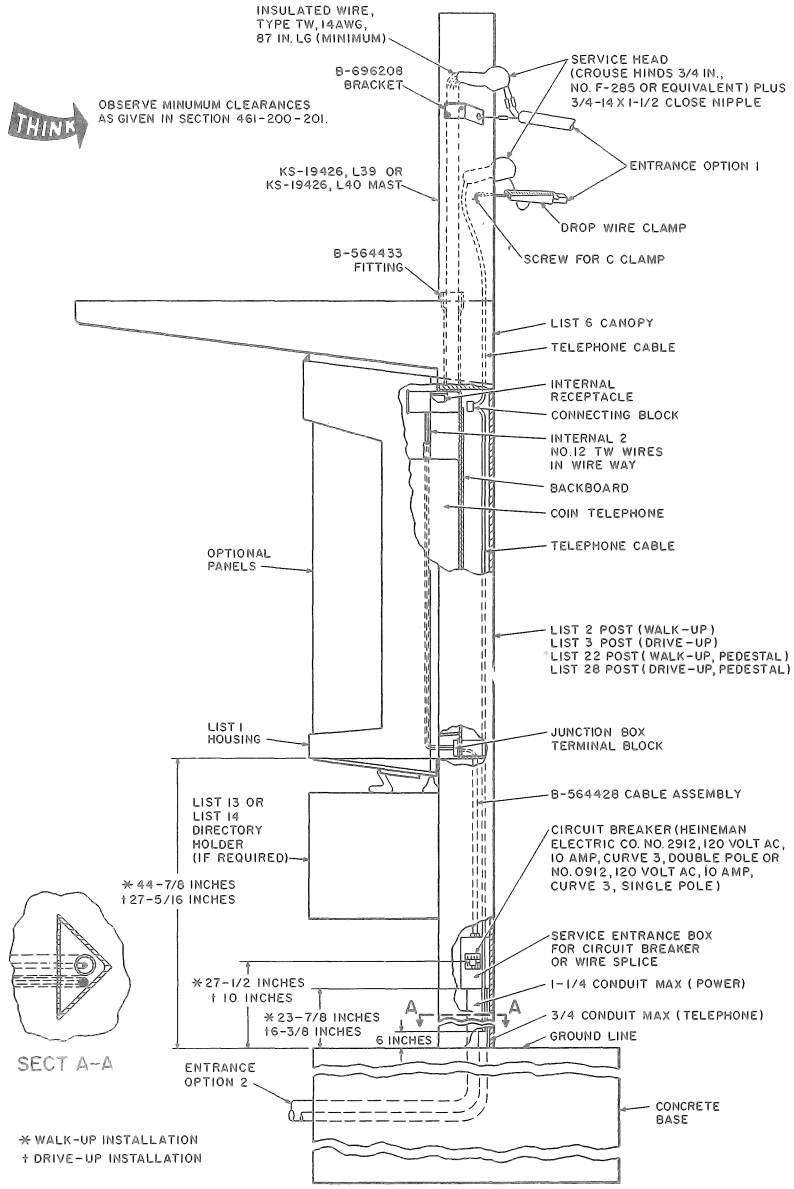

INSULATED WIRE, TYPE TW, 14AWG, 87 IN. LG (MINIMUM)
B-696208 BRACKET
SERVICE HEAD (CROUSE HINDS 3/4 IN., NO. F-285 OR EQUIVALENT) PLUS 3/4-14 X 1-1/2 CLOSE NIPPLE
THINK
OBSERVE MINUMUM CLEARANCES AS GIVEN IN SECTION 461-200-201.
KS-19426, L39 OR KS-19426, L40 MAST
ENTRANCE OPTION 1
DROP WIRE CLAMP
SCREW FOR C CLAMP
B-564433 FITTING
LIST 6 CANOPY
TELEPHONE CABLE
INTERNAL RECEPTACLE
CONNECTING BLOCK
INTERNAL 2 NO.12 TW WIRES IN WIRE WAY
BACKBOARD
COIN TELEPHONE
TELEPHONE CABLE
OPTIONAL PANELS
LIST 2 POST (WALK-UP)
LIST 3 POST (DRIVE-UP)
LIST 22 POST (WALK-UP, PEDESTAL)
LIST 28 POST (DRIVE-UP, PEDESTAL)
LIST 1 HOUSING
JUNCTION BOX TERMINAL BLOCK
B-564428 CABLE ASSEMBLY
LIST 13 OR LIST 14 DIRECTORY HOLDER (IF REQUIRED)
CIRCUIT BREAKER (HEINEMAN ELECTRIC CO. NO. 2912, 120 VOLT AC, 10 AMP, CURVE 3, DOUBLE POLE OR NO. 0912, 120 VOLT AC, 10 AMP, CURVE 3, SINGLE POLE)
*44-7/8 INCHES
†27-5/16 INCHES
SERVICE ENTRANCE BOX FOR CIRCUIT BREAKER OR WIRE SPLICE
*27-1/2 INCHES
†10 INCHES
1-1/4 CONDUIT MAX (POWER)
*23-7/8 INCHES
16-3/8 INCHES
A
A
3/4 CONDUIT MAX (TELEPHONE)
6 INCHES
GROUND LINE
SECT A-A
ENTRANCE OPTION 2
CONCRETE BASE
*WALK-UP INSTALLATION
†DRIVE-UP INSTALLATION

Fig. 5—Installation Requirements for Post or Pedestal Mounting

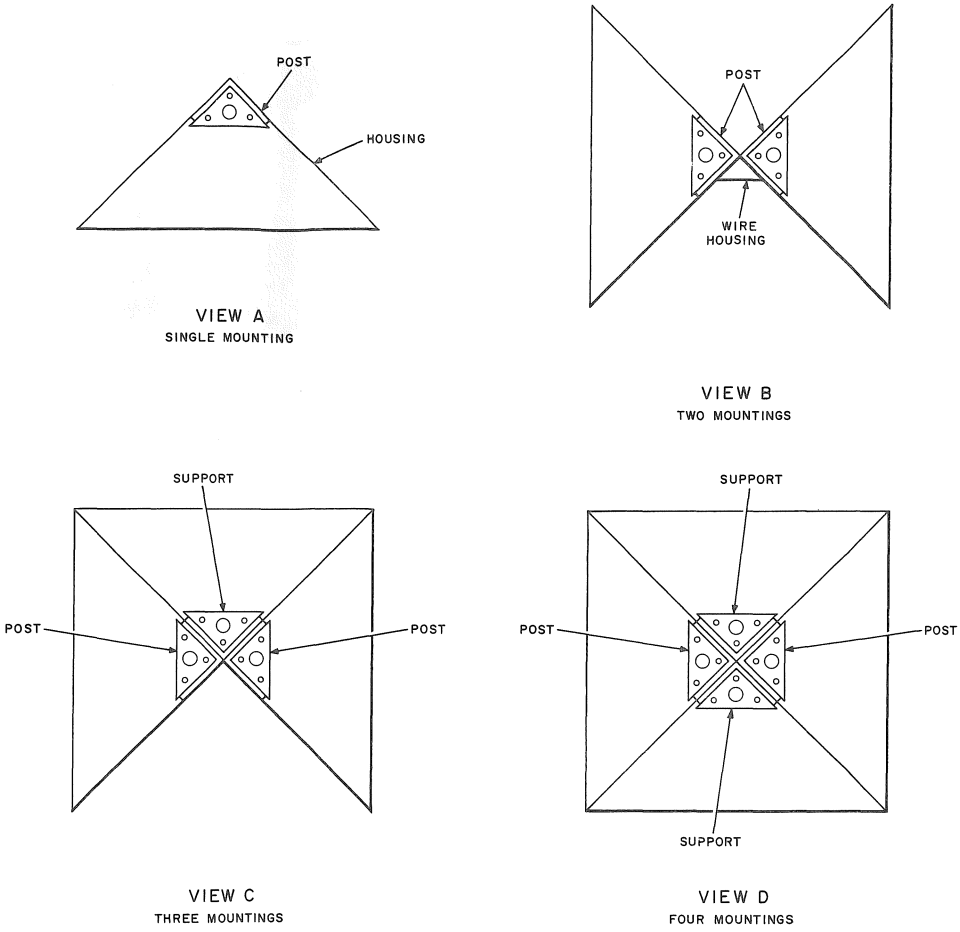


Fig. 6—Various Arrangements for Post Mountings

2.05 ***List 39 Mast:*** If a canopy is used, install KS-19426, List 39 mast, if required, as follows:

(1) Install B-962201 adapter with neoprene gasket on top of canopy using two 3/8-16 by 7 hex socket head cap screws. Leave hole at apex open.

(2) Insert power wires through opening in adapter and canopy (with B-564433 fitting) and install mast on adapter. Secure mast to adapter using two 3/8-16 by 1-1/2 hex head bolts. Further secure mast at apex by inserting 3/8-16 by 8-1/2 hex head bolt through mast, adapter, canopy, and into post.

2.06 ***List 40 Mast:*** If a canopy is not used, install KS-19426, List 40 mast, if required, as follows:

(1) Remove and discard three bolts from top of post.

(2) Install B-696200 adapter with neoprene gasket on top of post using two 3/8-16 by 1-1/4 hex socket head cap screws. Leave hole at apex open.

(3) Insert power wires through opening in adapter and install mast on adapter. Secure mast to adapter using two 3/8-16 by 1-1/2 hex head bolts. Further secure mast at apex by inserting 3/8-16 by 2-1/2 hex head bolt through mast, adapter, and into post.

2.07 *First Attachment:* If a mast is used, make the first attachment for telephone entrance in accordance with Section 462-350-213.

Observe minimum clearance for wire as given in Section 461-200-201. Bottom entrance head on mast is for telephone wire entrance. A drop wire hook or first attachment bracket is fastened by a 1/4-inch bolt under entrance head. The slit rubber grommet may be used and the entrance head omitted if conditions permit.

2.08 *Internal Wiring:* Install telephone wiring as outlined in 2.37 through 2.41 and install electric wiring as outlined in 2.42 through 2.49.

2.09 *Side Panels:* Install panels as follows (Fig. 7):

Note 1: For ease of installation, screws under shelf may be loosened and shelf moved forward.

Note 2: See Table A in Section 508-470-100 for availability of panels.

(1) Slide left panel into position.

(2) Secure bottom of panel to housing using three No. 8-32 by 5/16 round head screws, inserted from under shelf.

(3) Secure top rear portion of panel to housing using B-564411 slotted retainer and one No. 8-32 by 5/16 round head screw.

In the acoustic panels, the slotted retainer must be tapered in order for it to slide down in the panel.

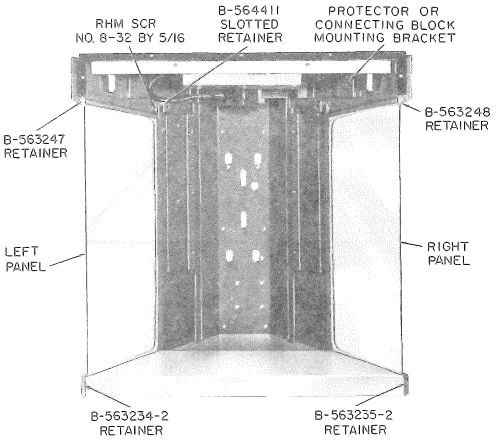


Fig. 7—KS-19426, L1 Housing Showing Installation of Panels

(4) For narrow panel, install B-563247 top retainer with lip toward inside using one No. 8-32 by 3/16 flathead screw.

(5) For narrow panel, install B-563234-2 bottom retainer, with lip toward outside using one No. 8-32 by 5/8 round head screw.

(6) For wide panel, install B-563234-1 bottom retainer, with lip toward outside, using one No. 8-32 by 5/8 round head screw.

(7) If an acoustic panel is used, secure top of panel to housing using No. 8 self-tapping screw.

(8) Slide right panel into position.

(9) Perform operations outlined in (2) and (3).

(10) For narrow panel, install B-563248 top retainer, with lip toward inside, using one No. 8-32 by 3/16 flathead screw.

(11) For narrow panel, install B-563235-2 bottom retainer, with lip toward outside using one No. 8-32 by 5/8 round head screw.

TABLE A

FASTENERS FOR WALL MOUNTINGS

FASTENER	DRILL SIZE	MOUNTING SURFACES			
		SOFT WOOD	HARD WOOD	MASONRY (CONCRETE, BRICK)	CINDER BLOCK, HOLLOW TILE
1-1/2 inch No. 14 FH wood screw	3/32		•		
5/16 by 2-inch hex or RH machine screw and 5/16-inch expansion shield	5/8			•	
1/4 by 4-inch RH toggle bolt	3/4	•			•

(12) For wide panel, install B-563235-1 bottom retainer, with lip toward outside using one No. 8-32 by 5/8 round head screw.

When two housings are mounted side-by-side in multiple installations, and glass panels are used, a filler multiplying strip (List 24 or List 25) is used in place of one of the panels. Do not use wide panels on drive-up mountings.

2.10 ***List 34 Top Assembly***

(a) If a 235- or 1235-type coin telephone is used, install KS-19426, List 34 top assembly on the coin telephone using two screws furnished with top assembly.

(b) Install the coin telephone, with top assembly attached, at this point. See Section 506-321-100. Always use security studs with KS-19426 mounting.

2.11 ***List 7 Installation Kit:*** If 1A-type coin telephone is used, install KS-19426, List 7 installation kit (Fig. 8) as outlined in the following:

(1) Ensure that studs and insert in backboard are tight.

(2) Install backboard in housing using six 1/4-20 by 5/8 round head screws.

(3) Install B-564432 bracket on bottom of housing using two No. 8-32 by 1/4 round head screws.

(4) Install B-56322[9] bracket on the top of backboard using two No. 8-32 by 1/4 flathead screws.

(5) Remove protective paper from edges only of B-563227 left shroud assembly. Install shroud assembly in the housing using 1/4-20 by 1/2 round head screw at top.

(6) Secure left shroud assembly to B-564432 bracket, installed in (3) using one No. 8-32 by 1/4 round head screw.

(7) Remove protective paper from edges only of B-563228 right shroud assembly. Install shroud assembly in the housing using one 1/4-20 by 1/2 round head screw at top.

(8) Secure right shroud assembly to B-564432 bracket, installed in step (3) using one No. 8-32 by 1/4 round head screw.

(9) Install 1A-type coin telephone as directed in Section 506-326-200. Always use security studs with KS-19426 mounting.

(10) Install B-564435 strip assembly above coin telephone using two No. 8-32 by 1/4 tamper proof screws and KS-19192, List 1 wrench.

2.12 ***List 8 Installation Kit:*** If a 200-type coin collector is used, install KS-19426, List 8 installation kit (Fig. 9) as follows:

(1) Ensure that studs and insert in adapter backboard are tight.

(2) Place B-563284 back shelf in bottom rear of housing. Secure by inserting two No. 8-32 by 1/4 round head machine screws from the underside of the housing. Do not tighten.

(3) Install backboard in housing using six 1/4-20 by 5/8 round head screws.

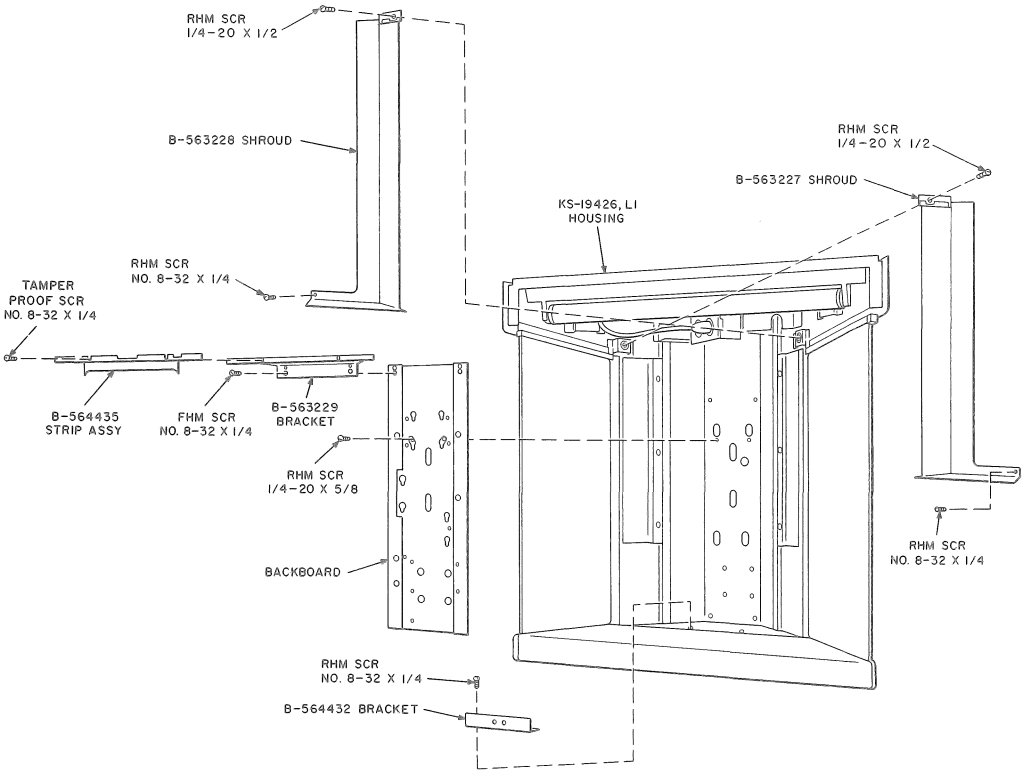


Fig. 8—KS-19426, L7 Installation Kit

(4) Install B-563229 bracket on top of backboard using two No. 8-32 by 1/4 flathead screws. Do not tighten.

(5) Remove protective paper from edges only of B-563289 left shroud assembly. Insert bottom of shroud into slots of back shelf, installed in (2) and secure shroud to housing using one 1/4-20 by 1/2 round head screw at top. Do not tighten.

(6) Remove protective paper from edges only of B-563290 right shroud assembly. Insert bottom of shroud into slots of back shelf installed in (2) and secure shroud to housing using one 1/4-20 by 1/2 round head screw at top. Do not tighten.

(7) Align backshelf, shrouds, and bracket. Tighten all screws.

(8) Install 200-type coin collector as directed in Section 506-110-200. Always use security studs with KS-19426 mounting.

(9) Install appropriate subscriber set on top of adapter backboard and on B-563229 bracket using four No.. 8-32 by 1/4 round head screws.

Note: Do not attach plastic subscriber set cover.

(10) Install B-564418 subscriber set cover assembly on B-563229 bracket using two No. 8-32 by 1/4 tamper proof screws and KS-19192, List 1 wrench.

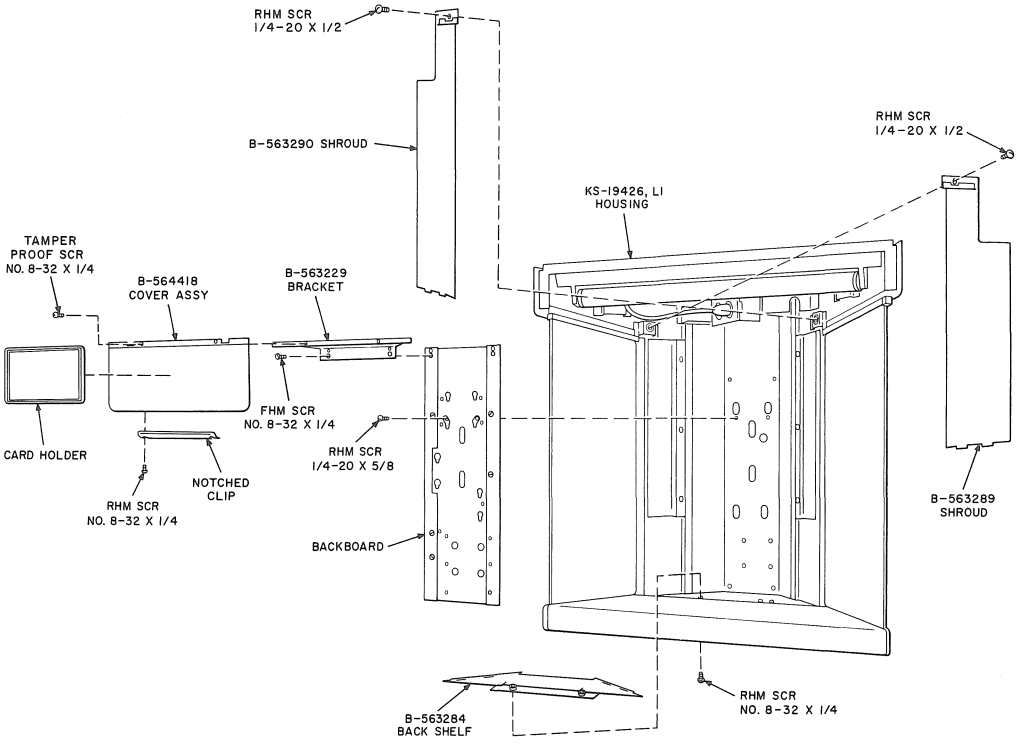


Fig. 9—KS-19426, L8 Installation Kit

2.13 ***List 18 Cardholder:*** If a List 18 cardholder is required for the 200-type coin collector install as follows (Fig. 9):

(1) Loosen two No. 8-32 by 1/4 round head screws located on bottom of subscriber set cover assembly.

(2) Insert appropriate card into cardholder frame.

(3) Slide notched clip of cardholder under the two loose screws.

(4) Insert tab at top of cardholder into notch of subscriber set cover.

(5) Tighten the two screws.

2.14 ***Light Shield:*** Insert fluorescent lamp in light fixture and install light shield as follows:

(1) Slide light shield over the panel retaining channels and verify that shield is seated properly against gasket. Ensure that back edge of shield is engaged in KS-19426, List 34 top assembly or B-564418 subset cover assembly (whichever is applicable).

(2) Install shield retainer bar across top of housing using four No. 10-24 by 1/2 tamper proof screws, and KS-19192, List 1 wrench.

2.15 ***List 32 and 33 Base Covers:*** Install KS-19426, List 32 and List 33 base covers or two KS-19426, List 33 base covers as follows (Fig. 4):

Note: KS-19426, List 33 has a cutout for post. If two posts are back-to-back, two List 33 covers are used.

(1) Slide List 32 cover over base from rear as shown, being careful to get bottom angles under base between base standoffs.

(2) Slide List 33 cover over base from front, being careful to get bottom angles under base. Apply KS-19094 antiseize compound to the threads of two 1/4-20 by 1-1/4 hex head self-tapping screws. Secure cover to post using these screws.

(3) Apply KS-19094 antiseize compound to the threads of two No. 8-32 by 3/8 flathead self-tapping screws. Secure the interlocking portion of the two covers together using these screws.

2.16 *Post Enclosures*

(a) Install B-563020-2 or B-564416-2 enclosure assembly (Fig. 4) on the lower portion of the post by engaging the clips of the enclosure with the corresponding brackets on the post and sliding down flush against the base cover.

Note: The B-563020-2 enclosure assembly is used on a walk-up mounting and the B-564416-2 enclosure assembly is used on a drive-up mounting.

(b) Install B-564438 shroud and door assembly on the upper portion of the post by engaging the bottom of the assembly with the top of the previously installed enclosure assembly and using two tamper proof screws and KS-19192, List 1 wrench.

2.17 *List 13 or 14 Directory Holder:* Install KS-19426, List 13 or List 14 directory holder, if required, as outlined below.

Note: KS-19426, List 13 is used for outdoor service; KS-19426, List 14 is used for indoor service.

(1) Install slide mechanism under shelf of housing using six No. 8-32 by 1/2 round head screws.

(2) Fasten the book holder to the slide mechanism by inserting the hinge pin through the hinge arm and securing with No. 10-32 tamper proof screw using KS-19192, List 1 wrench.

KS-19426, LIST 41 MAST AND KS-20031, LIST 1 SIGN (Fig. 10)

The KS-20031, sign can be installed on top of KS-19426, List 39 or 40 mast. If neither of these masts is used and a sign is desired, it will be necessary to install a KS-19426, List 41 mast. The List 41 mast cannot be installed on mountings without canopies.

2.18 *List 41 Mast:* Install KS-19426, List 41 mast on canopy as follows:

(1) Install adapter with neoprene gasket (both furnished with mast) on top of canopy using two 3/8-16 by 7 hex socket-head cap screws. Leave hole at apex open.

(2) Secure List 41 mast to adapter using two 3/8-16 by 1-1/2 hex head bolts. Secure mast at apex by inserting 3/8-16 by 8-1/2 hex head bolt through mast, adapter, canopy, and into post.

2.19 *KS-20031, List 1 Sign*

Note: The KS-20031 sign may be mounted with a flat side of the lens facing forward or it may be rotated 180 degrees to provide a corner in the forward position. Change mounting positions by removing four cap nuts from the bottom, rotating the lens 180 degrees, and securing it again with the cap nuts.

(1) Mount the sign on the mast and secure it with four 1/4-20 by 1/2 FH screws.

(2) KS-20031 sign lamps shall be wired to junction box below housing with No. 14 AWG wire. Connections should conform to connections of the housing fluorescent lamp.

POST MOUNTINGS EMBEDDED IN CONCRETE

Note 1: The concrete base for walk-up mountings shall be 24-inches square, 36-inches deep, and flush with ground level.

Note 2: Where a curb does not exist, the concrete base for drive-up mountings shall be 48-inches long, 24-inches wide, and 36-inches deep with 6 inches extending above road level. The 24-inch dimension shall parallel the road.

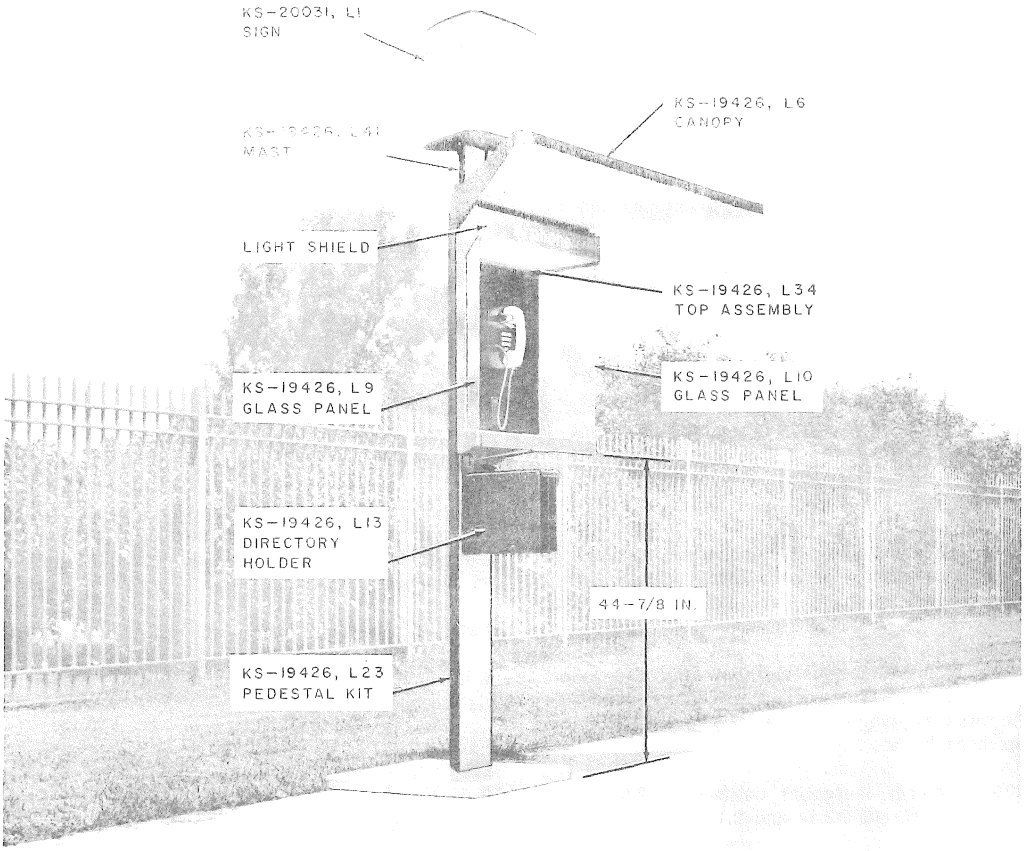


Fig. 10—KS-19426 Mounting For Walk-Up Outdoor Service With List 41 Mast and KS-20031 Illuminated Sign

Note 3: Where a curb does exist, the concrete base for drive-up mountings shall be 48-inches long, 24-inches wide, and 24-inches deep and flush with top of curb. The 24-inch dimension shall parallel the road.

2.20 Embed KS-19426, List 2 post(s), for walk-up mountings, or KS-19426, List 3 post(s), for drive-up mountings, in the center of the base to concur with the dimensions shown on Fig. 5.

2.21 Determine that the post(s) is perfectly plumb to ensure proper operation of the coin telephone.

2.22 Perform operations outlined in 2.02 (e), (f), (h) through 2.14 and 2.16 through 2.19.

WALL MOUNTINGS, USING KS-19426, LIST 4 SUPPORT

Note: KS-19426, List 4 support may be installed in a corner (View B, Fig. 11), at right angles (View C, Fig. 11), or around a corner (View D, Fig. 11).

2.23 Place support on the wall 45-1/8 inches from ground or floor. See Fig. 12 for installation requirements.

2.24 Remove sliding backboard to expose mounting holes.

2.25 Using the support as a template, mark for the drilling of eight holes in wall.

2.26 Drill anchor holes in masonry or lead holes in wood and use fasteners as indicated in Table A to fasten support to surface.

Eye protection shall be worn while drilling.

2.27 Install sliding backboard in support.

2.28 When installing two mountings adjacent to each other (View C, Fig. 11), secure two supports together using six 1/4-20 by 1/2 hex head bolts.

2.29 To install a mounting around a corner (View D, Fig. 11), secure the center support to the adjacent supports using twelve 1/4-20 by 1/2 hex head bolts.

2.30 Perform operations outlined in 2.03, 2.04, 2.08 through 2.14 and 2.17.

WALL MOUNTINGS, USING KS-19426, LIST 5 SUPPORT

Note: KS-19426, List 5 support is used to install a wall mounting on a flat surface (View A, Fig. 11).

2.31 Place support on the wall 45-1/8 inches from ground or floor. See Fig. 12 for installation requirements.

2.32 Remove sliding backboard to expose mounting holes.

2.33 Using the support as a template, mark for the drilling of eight holes in wall.

2.34 Drill anchor holes in masonry or lead holes in wood and use fasteners indicated in Table A to fasten support to surface.

Eye protection shall be worn while drilling.

2.35 Install sliding backboard in support.

2.36 Perform operations outlined in 2.03 (a), 2.03 (b), 2.03 (d), 2.04, 2.08 through 2.14 and 2.17.

TELEPHONE WIRING

Note 1: Wiring for a post mounting may enter from the ground or from a mast (Fig. 5).

Note 2: Wiring for a wall mounting may enter from the bottom of the housing, top of the housing, or from the back of the housing through the wall (Fig. 12).

2.37 If station protection is required, install 123A1A protector on the bracket provided in the rear of housing (Fig. 7) and terminate station wiring on this protector.

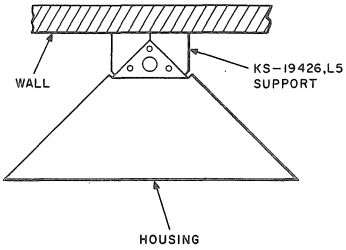
2.38 If the requirements for 123A1A protector cannot be met, install a fused-type protector at a convenient location and connect to telephone ground rod.

2.39 If a fused-type protector is installed or if the service order does not specify a station protector, install a 42A-type connecting block on the bracket in the housing, if required.

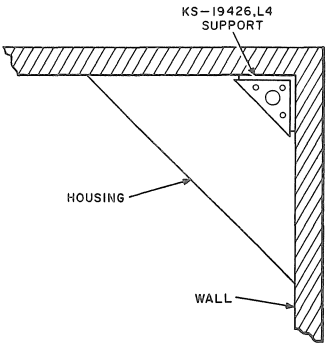
When station wiring is installed for single mountings, consideration should be given for future requirements (back-to-back, or clustered mountings). The 44A-type connecting block may be substituted to terminate a 6-pair cable.

2.40 When a subscriber set is required, connect the subscriber set to the coin collector in accordance with Section 506-215-403 or 506-215-404.

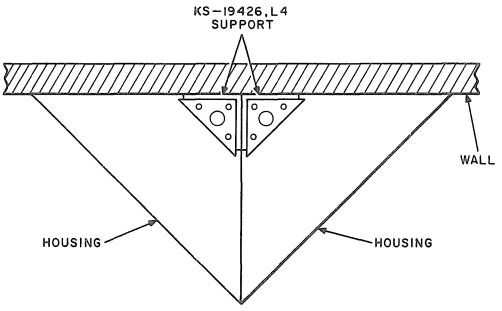
2.41 Ground for the station protector is usually provided by the power system ground. See Section 508-100-100 for additional information on grounding.



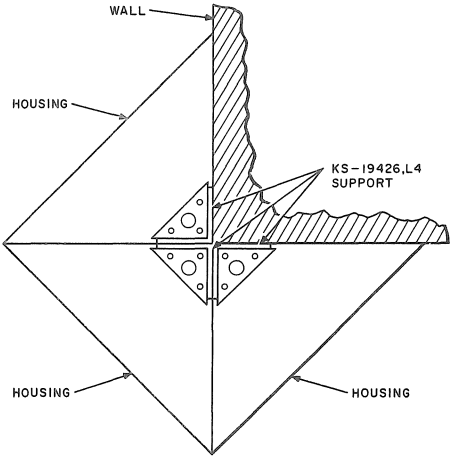
VIEW A
SINGLE MOUNTING
FLAT SURFACE



VIEW B
SINGLE MOUNTING, CORNER



VIEW C
TWO WALL MOUNTINGS
AT RIGHT ANGLES



VIEW D
THREE MOUNTINGS
AROUND CORNER

Fig. 11—Various Arrangements for Wall Mountings

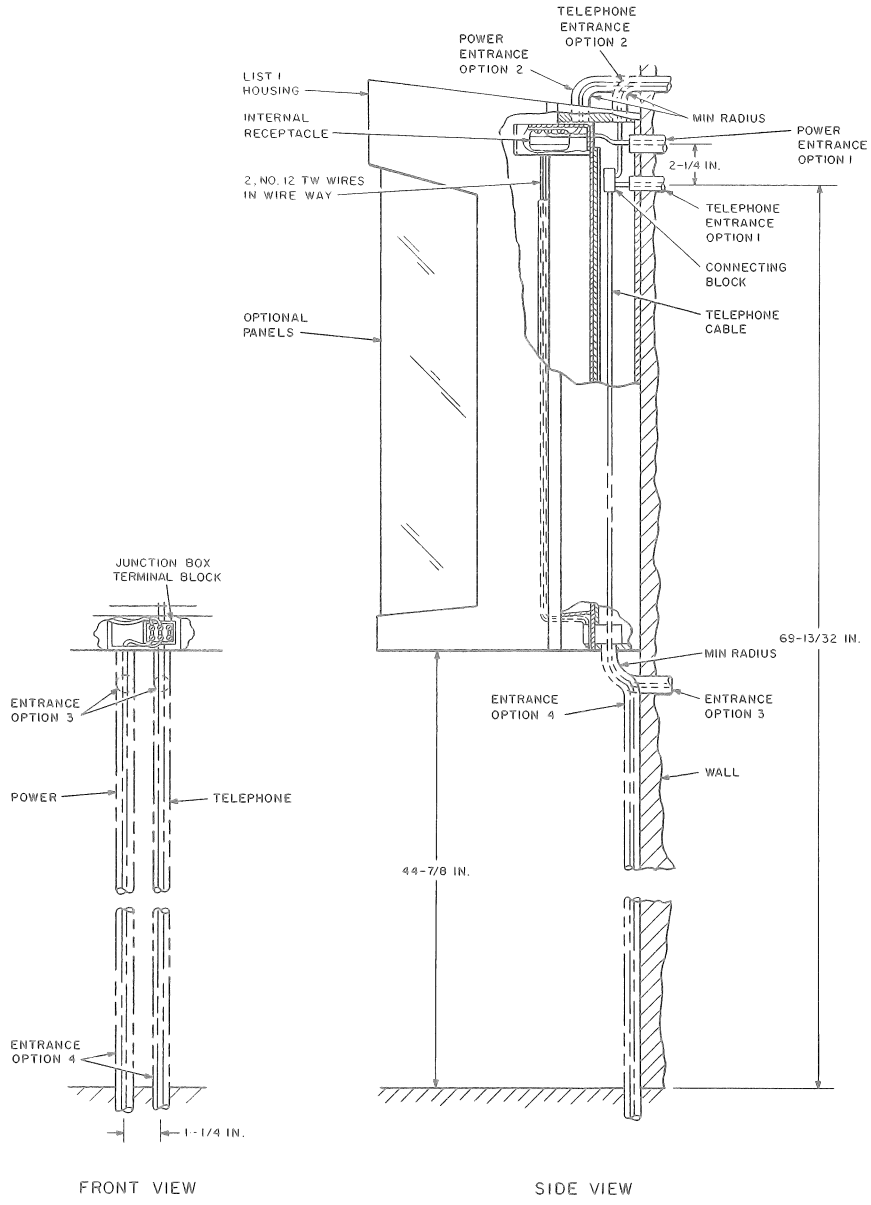


Fig. 12—Installation Requirements for Wall Mountings

ELECTRIC WIRING

2.42 Install 110-volt wiring to conform with current requirements of the National Electrical Code, Governmental Agencies, and Company Standards.

2.43 Observe the following safety rules.

Under no circumstances shall any makeshift or temporary electric connection be made on lighting equipment. Before making any repairs or replacements in electrical equipment, operate the electric switch and make sure that the circuit is dead. Verify that the circuit is dead using an electric wire tester or an approved device. Wear eye protection when handling fluorescent lamps.

2.44 Use the 3-wire arrangement between the power service equipment and the housing as shown in Section 508-100-100. It is recommended that this 3-wire arrangement to the service equipment or to a junction box be used at all installations.

2.45 Use Fig. 13 as a guide for internal wiring.

2.46 When a service entrance box is used in post mounted installations, interconnect the service entrance box and the junction box terminal block under the housing with B-564428 cable assembly.

Install cable with long end fitting at top.

2.47 Interconnect power receptacles in back-to-back or cluster mountings using No. 14, 3-wire armored cable and fittings. Feed cable ***through*** top side hole of post and housings or supports.

2.48 Refer to Section 508-100-100 for all wiring and grounding requirements.

2.49 A KS-19261, List 3 light control is available to switch the light on at darkness and off at daylight; install in accordance with Section 508-825-100.

3. MAINTENANCE

3.01 The local telephone company shall establish appearance standards of all exposed surfaces.

3.02 The local telephone company shall establish safety standards for all mountings.

3.03 Inspect the approach to the mounting and ensure that it is free of all hazards.

3.04 Clean the mounting in accordance with Section 770-170-308.

Wear eye protection when removing light shield or replacing lamps. Turn power off before working on lighting equipment or electrical wiring.

3.05 Replace light shields and lamps which do not meet local telephone company standards. See 2.14.

3.06 Replace broken or damaged side panels. See 2.09.

3.07 In pedestal or post mountings, replace post covers or pedestal covers which are damaged. See 2.15 and 2.16.

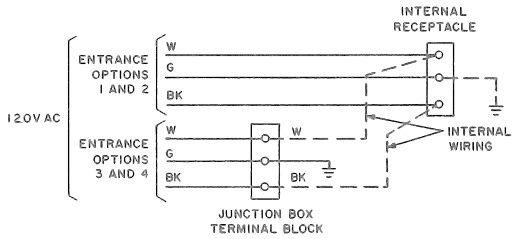
3.08 Ensure that mounting bolts for canopy and mast, if present, are tight.

3.09 In pedestal mountings, ensure that the mounting bolts in the base are tight.

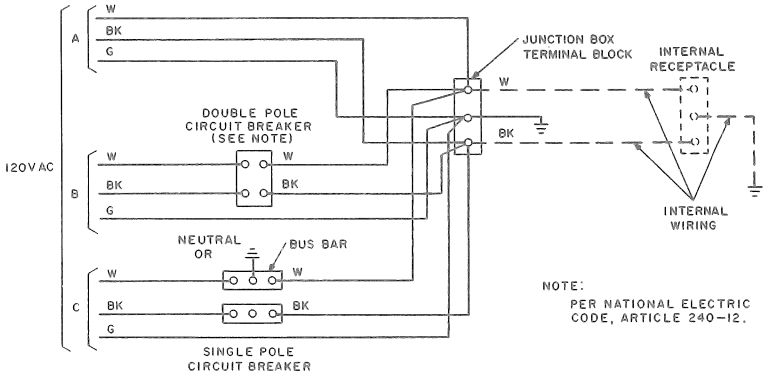
3.10 Replace telephone directories and directory holders which show signs of excessive wear or damage. See 2.17.

3.11 See Table A in Section 508-470-100 for list of replaceable items.

WALL MOUNTING



WALK-UP, DRIVE-UP MOUNTING



STANDARD WIRING

A-NO CIRCUIT BREAKER

OPTIONAL WIRING

B-DOUBLE POLE CIRCUIT BREAKER. (HEINEMAN ELECTRIC CO. NO. 2912, 120 VOLT AC, 10 AMP, CURVE 3)

C-SINGLE POLE CIRCUIT BREAKER. (HEINEMAN ELECTRIC CO. NO. 0912, 120 VOLT AC, 10 AMP, CURVE 3)

Fig. 13—Wiring Diagram

DIRECTORY HANGERS, FASTENERS, AND BINDERS

IDENTIFICATION AND INSTALLATION

1. GENERAL

1.001 This addendum supplements Section 508-710-101, Issue 2 and is reissued due to reissuance of the main section.

1.002 This addendum provides local instructions on the use of S-1 directory hanger and the providing of telephone directories at public and semi-public telephones.

1.003 A current exchange telephone directory shall be provided at all public and semi-public telephones. A directory binder of the proper type as standardized for local use shall be provided for all public telephones. Normally no binders are provided for semi-public installations. The proper type of hangers and fasteners as specified in this addendum and master section shall be used.

3.00 DIRECTORY HANGERS

The following changes apply to part 3 of the section:

a. 3.07 through 3.09 added.

3.07 The S-1 directory hanger and the No. 3 directory ring shall be used for installation of directories at Boothettes, SB-type shelves, tables, etc. where the KS type hangers are not applicable. In addition to this application they may also be used for directory installations not requiring binders which have a thickness of 3/4" or less and holes punched in the top.

3.08 Where the SB-34 directory holder is used on the Drive-up Walk-up Public Telephone Mountings KS 16705, drill the under side of the plastic holder and mount the S-1 hanger by using two No. 8 X 3/4 self tapping metal screws.

3.09 The S-1 hanger is a chain hanger with an overall length of 16", and has a screw plate which requires two No. 8 RH screws. Mount the hanger at a height which will cause the topmost part of the directory binder, when hanging freely, to be 48" from the floor. If the directory binders are hung from the center the height shall be 45" from the floor to the topmost part of the binder. The S-1 hanger should be mounted immediately adjacent to the top right side of the telephone instrument.

DIRECTORY HANGERS, FASTENERS, AND BINDERS

IDENTIFICATION AND INSTALLATION

1. GENERAL

1.01 This section is reissued to:

- Add information to Table C.
- Correct Fig. 15 and 16.

1.02 Where shelf or table space is adequate, use directory fasteners. When shelves or tables are not desirable, use directory hangers.

2. DIRECTORY HANGERS

2.01 Fig. 1 shows the KS-7302 and the KS-13350-type directory hangers.

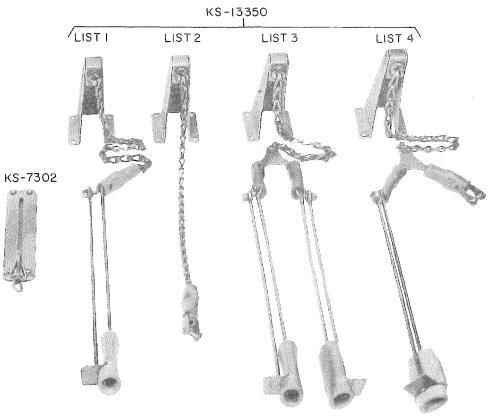


Fig. 1 — Directory Hangers

2.02 Attach KS-7302 directory hangers on:

- Outside panels of wood booths (Fig. 2).
- Wall surfaces with the use of backboards. Install in same manner shown in Fig. 2.

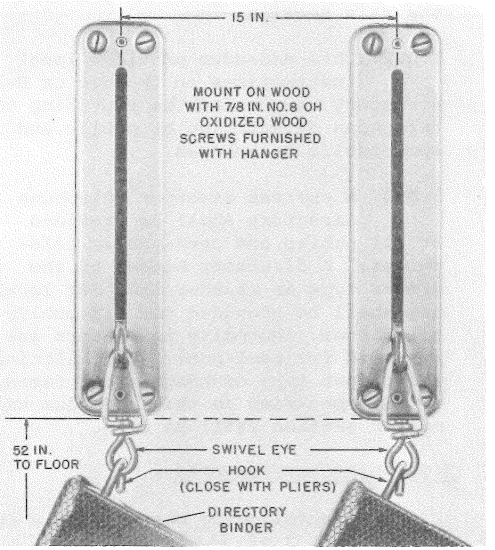

15 IN.
MOUNT ON WOOD WITH 7/8 IN. NO.8 OH OXIDIZED WOOD SCREWS FURNISHED WITH HANGER
52 IN. TO FLOOR
SWIVEL EYE
HOOK (CLOSE WITH PLIERS)
DIRECTORY BINDER

Fig. 2 — KS-7302 Hanger Installation

2.03 With KS-7302 hangers, use directory binders. See Fig. 3.

2.04 Attach KS-13350-type directory hangers on:

- Outside panels of wood booths (Fig. 4).
- Wall surfaces with the use of backboards. Install in same manner as Fig. 4.

2.05 Capacity of the KS-13350-type hangers is listed in Table A.

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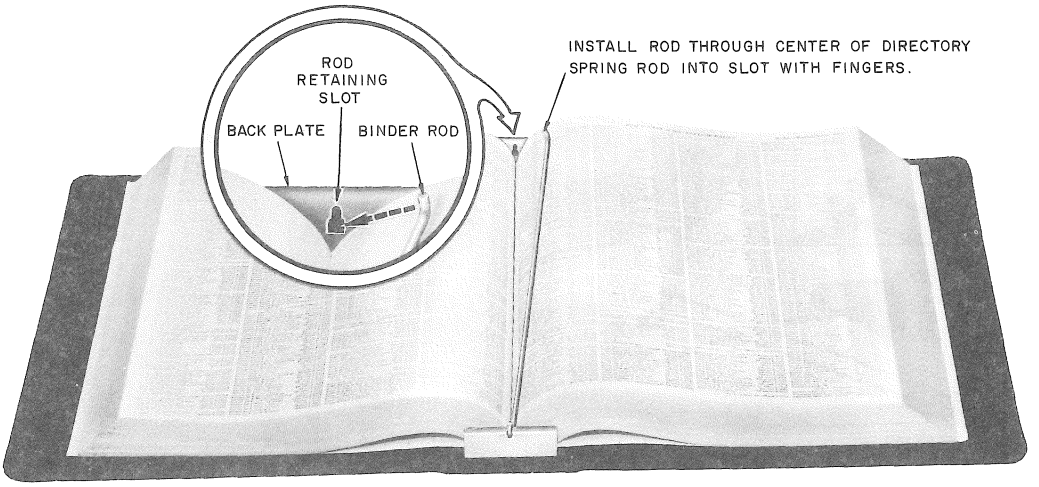


Fig. 3 — Installing Directory in Binder

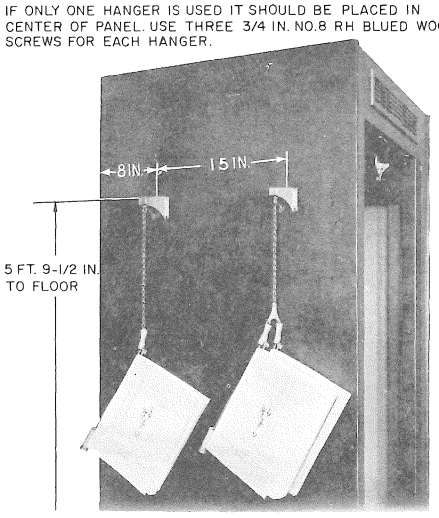

IF ONLY ONE HANGER IS USED IT SHOULD BE PLACED IN CENTER OF PANEL. USE THREE 3/4 IN. NO.8 RH BLUED WOOD SCREWS FOR EACH HANGER.
8IN.
15IN.
5 FT. 9-1/2 IN. TO FLOOR

Fig. 4 — KS-13350-Type Hanger Installation

2.06 Place directory in KS-13350 hanger clamps as shown in Fig. 5.

3. DIRECTORY FASTENERS

3.01 The various types of directory fasteners are shown in Fig. 6. The capacity of each is listed in Table B.

TABLE A

KS-13350 HANGER CAPACITY

LIST	DIRECTORY	
	QUANTITY	THICKNESS*
1	1	thick
2	1†	thin
3	2	thick
4	1	thin
	1	thick

*Thick designates approximately 3/4-inch or more; thin designates less than 3/4-inch.

†Directory must have hole punched.

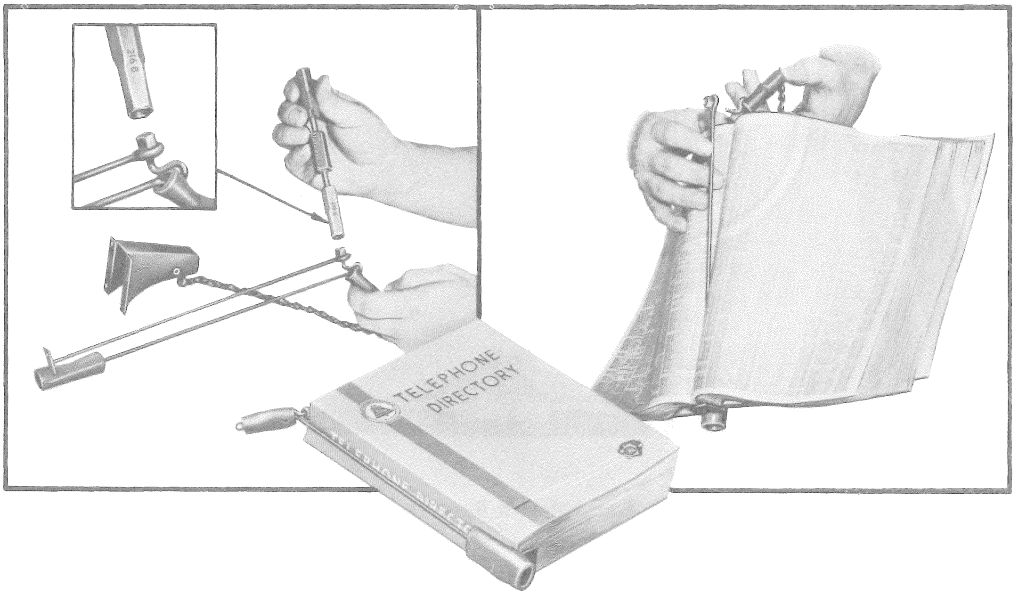


Fig. 5 — Installing Directory in KS-13350 Hanger Clamps

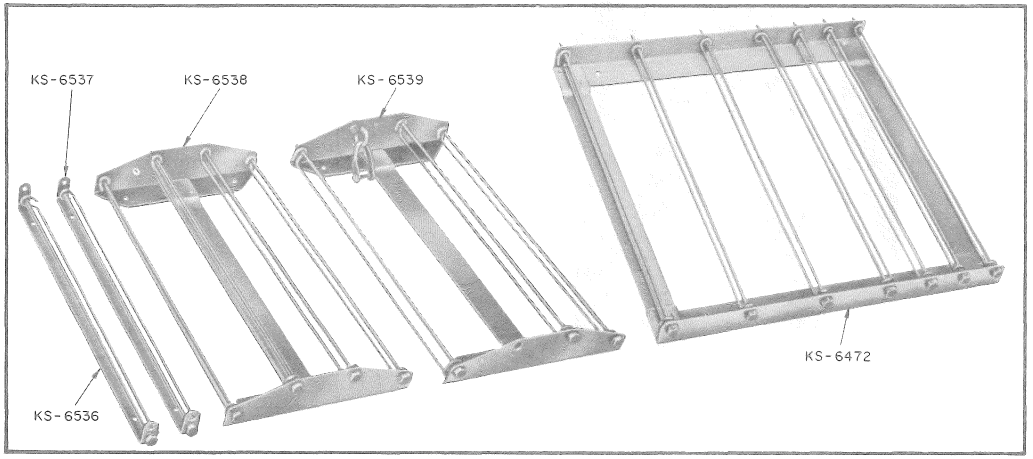


Fig. 6 — Directory Fasteners

TABLE B

DIRECTORY FASTENER CAPACITY

FASTENER	DIRECTORY	
	QUANTITY	THICKNESS*
KS-6472	7	thick
KS-6536	1	
KS-6537	1	thin
KS-6538	1	
	3	thick
KS-6539	1†	thin
	1	
	2	thick

*Thick designates approximately 3/4-inch or more; thin designates less than 3/4-inch.

†Directory must have hole punched.

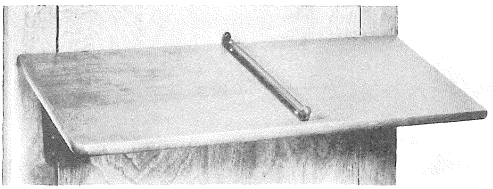


Fig. 7 — KS-6536 Directory Fastener

3.02 Locate the fastener in the center of shelf or table 1/2-inch from front edge. Attach the fastener with 3/4-inch No. 8 RH blued wood screws. See Fig. 7, 8, and 9.

3.03 When placing more than one fastener, space each one equal distance from ends of shelf or table, although far enough from edge to avoid overhang of the directory.

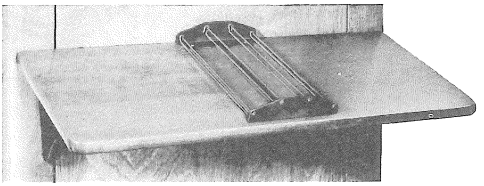


Fig. 8 — KS-6538 Directory Fastener

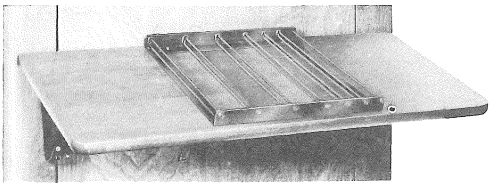


Fig. 9 — KS-6472 Directory Fastener

3.04 Insert directory in fastener as illustrated in Fig. 10, 11, and 12.

TABLE C

OD BINDER CAPACITY

DIRECTORY SIZE			OD BINDER NO.	ROD NO.
WIDTH	HEIGHT	THICKNESS	1 2 3	
	INCHES		NO. OF RODS	
9-1/4	11	Over 3/4	1 2 2	1
6-1/8	9-1/4			2
6-1/8	9-1/4	Less than 3/4	or more (up to 5)	3
9-1/4	11			3

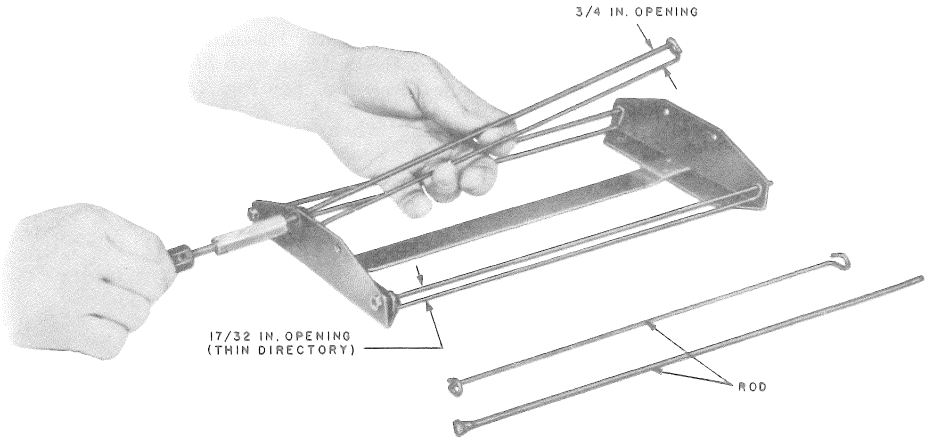


Fig. 10 — Removing Rod

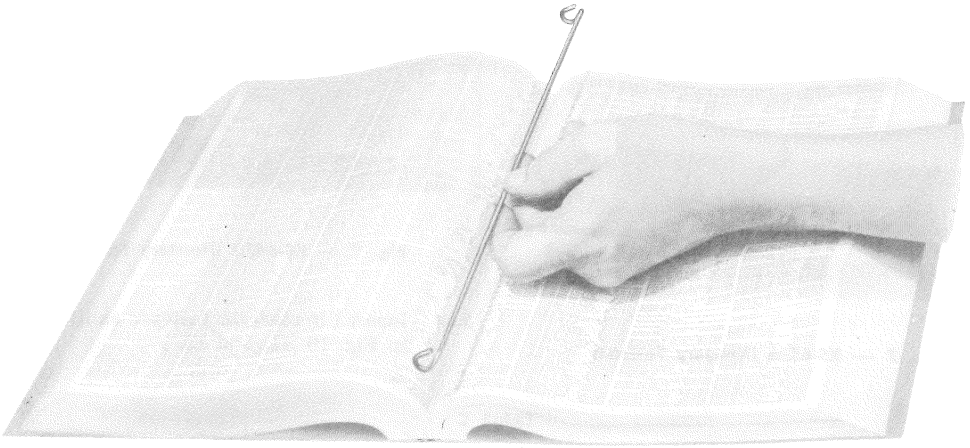


Fig. 11 — Placing Rod in Directory

TABLE D
OD BINDER THICKNESS

OD BINDER NO.	FROM INCHES	TO INCHES
1	3/4	1-1/4
2	1-1/4	2-1/4
3	2-1/4	3-3/8

4. DIRECTORY BINDERS

4.01 Fig. 13 shows various type binders that are supplied locally. Fig. 14 shows the OD directory binders and Fig. 15 is the OD binder assembly.

4.02 OD binder capacity is listed in Table C. The OD binder thickness is listed in Table D.

4.03 Install directory in OD binder as follows:

(1) Unlatch binder rods (Fig. 16).

(2) Screw key into locking device, and pull to unlock adjustable backplate. LEAVE KEY IN LOCK (Fig. 17).

(3) Open backplate to maximum width.

(4) Place directory in binder and reduce backplate to thickness of directory.

(5) Hold backplate against directory and remove key (this locks backplate).

(6) Place binder rod between pages of directory to coincide with binder rod retaining slots.

(7) Latch binder rod at top hinge into binder rod retaining slot (Fig. 16).

4.04 The following are components for OD binder installation in a KS-14611 booth.

B-182452 directory rack

B-179399 hinge pin

Fig. 12 — Directory in Fastener

Nut, hex, captive lockwasher 1/4- by 20 for hinge pin

P-44A936 spacer collar

B-179423 rubber bumper.

4.05 Install OD binders in KS-14611 booth as follows:

(1) Remove nut from end of pin (if lock is on hinge pin, use binder key).

(2) Use 3/32-Allen wrench to loosen spacers (collars).

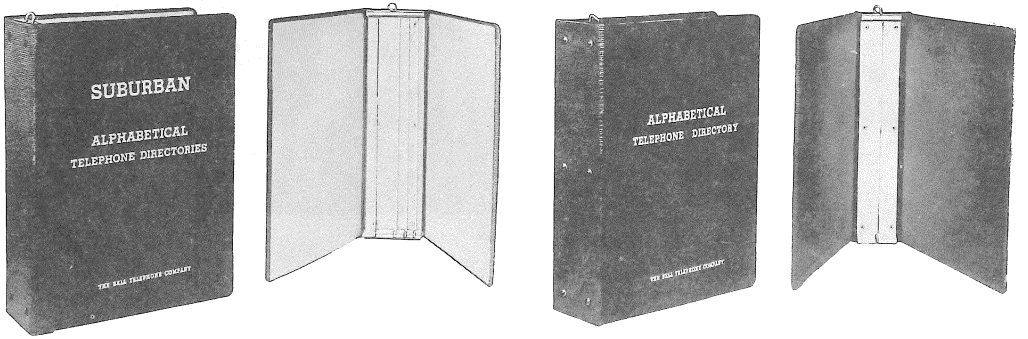


Fig. 13 — Directory Binders (Supplied Locally)

(3) Remove hinge pin (shaft).

(4) Assemble binder on hinge pin with a spacer beside each thin binder.

(5) Tighten spacers against binder and replace lock or nut on end of hinge pin.

4.06 Fig. 18 shows a double directory installation. This type of installation may be placed on both the back and side walls for maximum usage of four directories. When only one directory is used, install apparatus blank KS-14611, List 45 to cover empty space.

4.07 Replace worn covers on OD binders as follows:

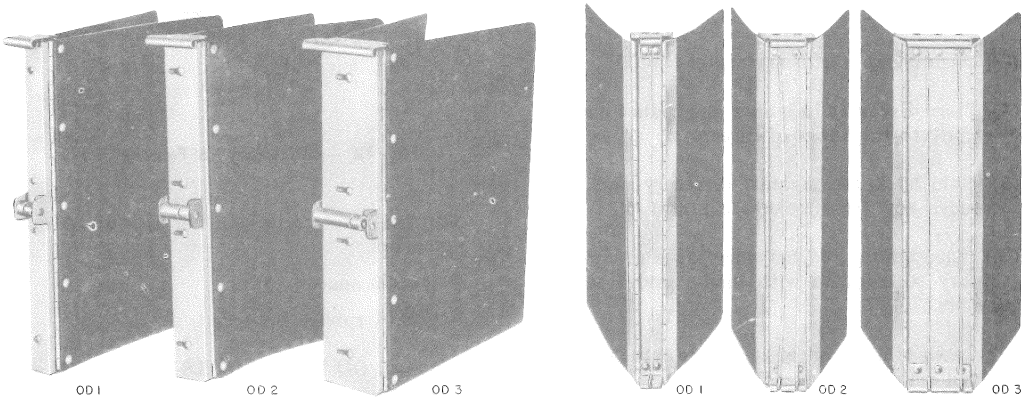


Fig. 14 — OD Directory Binders

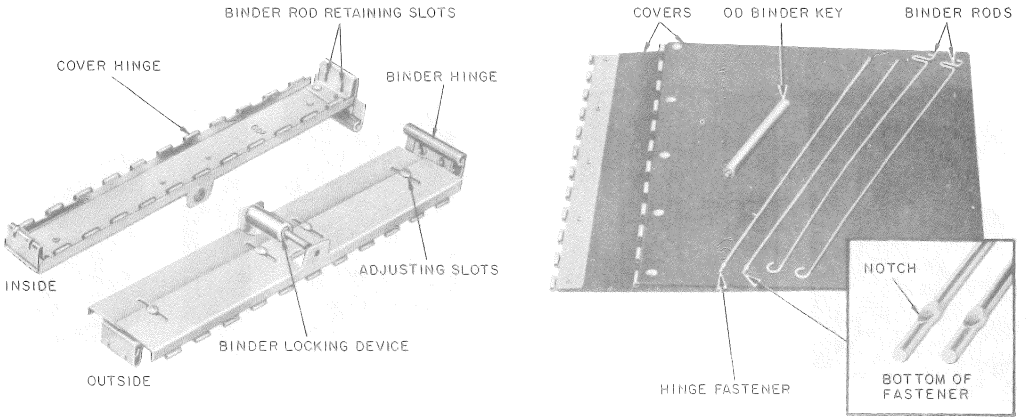


Fig. 15 — OD Binder Assembly

(1) Insert a short piece of rod in top hinge. Tap the rod lightly to drive hinge fastener (hinge shaft) out the bottom.

(2) Position new cover and replace hinge fastener from bottom (bottom end of fastener has a notch 1/4-inch from end). Do not invert.

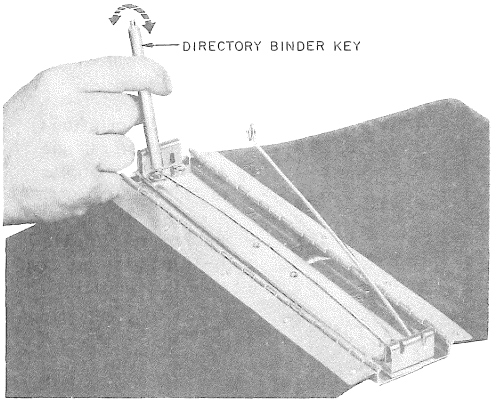


Fig. 16 — Unlatching OD Binder Rod

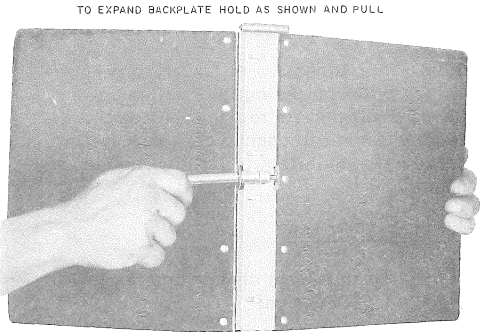


Fig. 17 — Unlocking Backplate — Rear View

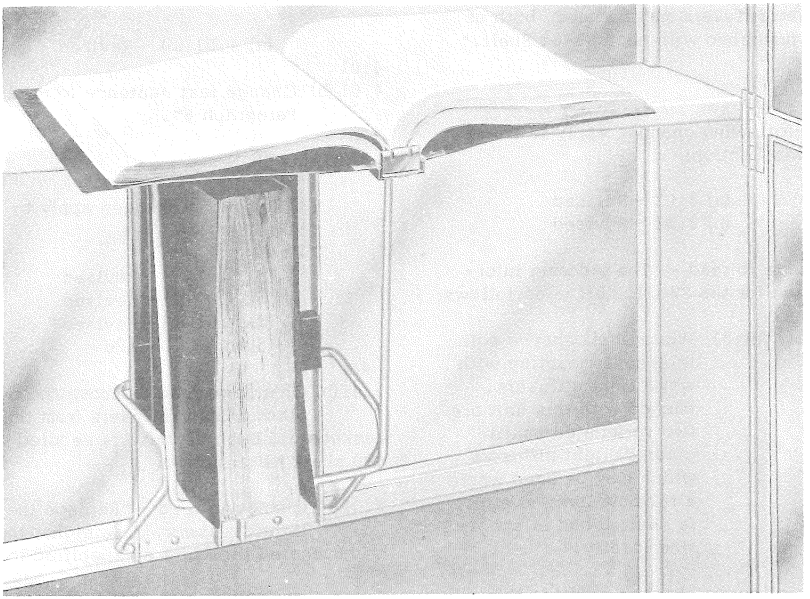


Fig. 18 — Directory Installation Complete in KS-14611 Booth

SB-31 SHELF

1. INTRODUCTION

1.01 This Addendum supplements Section 508-710-901, Issue A.

1.02 This Addendum is issued to change certain ordering information on the SB-31 Shelf and its replacement parts. It is also issued to change certain installation procedures and electric light wiring arrangements.

2. DESCRIPTION

The following change applies to Part 2 of the Section:

(a) 2.01 - Revised

2.01 Change the fourth sentence to read - "Either white or variegated translucent plastic light diffusers may be used, both of which are furnished with each SB-31 Shelf."

3. SUPPLIES

The following changes apply to Part 3 of this Section:

(a) 3.02 - Revised
(b) 3.03 - Revised

3.02 Change to read - "The ordering information for the SB-31 Shelf is as follows:

Shelf, SB-31	White shell shaped coin telephone mounting with white light diffusers. Packed with this unit are two variegated (multi-colored) light diffusers which may be used where a rainbow lighting effect is desired and is specified locally."

3.03 The following changes apply to this paragraph:

Delete	- Backboard, Steel, SB-31 and the descriptive information.
Writing Shelf, SB-31, B-20	- In the descriptive information change the word "phenolic" to "formica type".
Delete	- Backboard, SB-31 B-40 and the descriptive information.
Lamp, F15T8, 15 watt, white or pink	- Delete the words "white or".

4. LOCATING

The following change applies to Part 4 of this Section:

(a) 4.01 (b) - Revised

4.01

4.01 (b) Change last sentence to read - "See Paragraph 6".

5. INSTALLATION

The following changes apply to Part 5 of this Section:

(a) 5.01 (b) - Revised
(b) 5.01 (f) - Revised
(c) 5.01 (g) - Revised
(d) 5.01 (l) - Add

5.01(b) Change to read "Remove the two side plastic light diffusers from the steel backboard. Each of these is secured with a #10 sheet metal screw."

5.01(f) Change to read - "Replace the plastic light diffusers. Use eigher the white or variegated diffusers as specified locally."

5.01(g) Change to read - "Remove wiring compartment cover in directory space. Pull

in telephone wire through hole on left in subset bracket and hood assembly. Feed wire through bottom of ballast box in wireway and up through hole "A". Replace wiring compartment cover.

5.01(l) Add - "Plug the light cord into a 110 Volts AC receptacle. Both lamps should light."

6. WIRING

The following changes apply to Part 6 of this Section:

(a) 6.01 - Revise
(b) 6.02 - Delete
(c) 6.03 - Delete

6.01 Delete existing paragraph. Add new paragraph to read - "The SB-31 Shelf has a line cord about 8 ft. long which may be plugged into a regular 110 Volts AC receptacle. The service order will indicate whether or not the Company will bear the expense of electric wiring. Where provided by the Telephone Company, the Plant Department shall be responsible for the eiring arrangements. This wiring shall conform to the rules and regulations of the National Electric Code and any supplemental local rules and regulations."

OTHER CHANGES

The pictorial section of page 4 of the Section is to be labled "Figure A". Under the sketch of the SB-31 Shelf on Fig. A is listed a summary of the Installation Procedure. The following changes apply to the items of Fig. A:

3. Change the word "three" to "two" side".

7. Change the word "three" to "two side". Add the sentence "Use the white or variegated diffusers as specified locally."

8. Change to read - "See paragraph 5.01 (g) of Addendum C39.903,Issue 1."

SHELF SB-31

1. GENERAL

1.01 This section provides information covering the description, installation, connection, maintenance and supplies for the SB-31 Shelf.

2. DESCRIPTION

2.01 The SB-31 Shelf, sometimes called the Pearl, is a sea shell shaped coin telephone mounting made of white acrylic plastic approximately 1/4 inch thick, the dimensions of which are about 37 1/4 inches high, 28 1/4 inches wide, and 12 1/2 inches deep. This unit is equipped with a writing shelf and a directory storage space. A steel backboard provides mounting space for the coin collector and houses two flourescent tubes which provide unusual lighting effects in the Shelf. Either white or variegated translucent plastic light diffusers may be used with this unit. The flourescent tubes will be furnished in a soft pink. The subset is mounted on a special bracket underneath the SB-31 Shelf. Underwriters' Laboratories approval is expected on this unit soon.

2.02 Refer to Figures A, B, and C for descriptive illustrations of this coin telephone mounting.

2.03 The SB-31 Shelf was designed for indoor wall mounting.

3. SUPPLIES

3.01 The SB-31 Shelf is shipped assembled and ready for installation.

3.02 The ordering information for the SB-31 Shelf is as follows:

Shelf, SB-31, L1	White shell shaped coin telephone mounting with white light diffusers.
Shelf, SB-32, L2	White shell shaped coin telephone mounting with variegated light diffusers on the sides of the backboard with a white diffuser at the top of the backboard. This provides a rainbow lighting effect.

3.03 The ordering information for the SB-31 Shelf replacement parts is listed below:

Backboard, Steel, SB-31, B-1	Steel Backboard which includes the the lighting space and writing shelf support. White baked enamel finish.
Hood, SB-31, B-5	White plastic sea shell shaped hood assembly.
Writing Shelf, SB-31, B-20	Shelf, 3/4 inch plywood covered with white phenolic plastic decorated with gold sequins.
Diffuser (Side), SB-31, B-30	White plastic light diffuser for the side of the steel backboard. Order 2 for complete set.
Diffuser (Side), SB-31, B-32	Variegated (multicolored) light diffusers for the side of the steel backboard. Order 2 for complete set. Used where rainbow effect is desired.
Diffuser (top), SB-31, B-34	White plastic light diffuser for the top of the steel backboard. This item is used with the B-30 and B-32 diffusers.

Backboard, SB-31, B-40	Masonite backboard used between wall surface and plastic hood. See Figure A.
Bracket, Subset, SB-31,B-50	Steel bracket, white baked enamel finish, used to support subset underneath hood. See Figure A.
Lamp, F-15T8, 15 Watt, White or Pink	18" flourescent tube. Two used in this unit.
Starter, Light, Flourescent, #FS-2, 15 Watt	Two used in this unit.
Ballast, Light, Flourescent, GE#896381 or equivalent	Two used in this unit.

4. LOCATING

A. PRELIMINARY SURVEY

4.01 A Telephone Company Representative from the Commercial Department will generally:

(a) Select a location in accordance with paragraphs 4.02 through 4.05 and arrange for its clearance in time for the delivery of SB-31 Shelf.

(b) Make arrangements for the connections of lighting equipment and work out arrangements for furnishing electrical service. See Paragraph 6A.

(c) Furnish complete information to the Plant Department for the preparation of orders for the SB-31 Shelf installation.

4.02 The SB-31 Shelf location is to be carefully chosen. The SB-31 Shelf is a very attractive mounting and it should be used to attract telephone users and to help the Company locate coin telephones in places which have not allowed their installation before. This coin telephone mounting will add much to the decor of any location.

B. GENERAL REQUIREMENTS

4.03 The SB-31 Shelf shall be located as specified on service orders or attachment thereto.

4.04 The SB-31 Shelf should be easily accessible to the public. It is to be wall mounted at an indooor location.

4.05 This Shelf should be so located that:

(a) The approach to it is free from hazards or obstructions.

(b) Sufficient space is available around this assembly to permit access to the equipment.

(c) All exposed surfaces are readily accessible for cleaning.

5. INSTALLATION

5.01 The SB-31 Shelf is shipped assembled and ready for installation. The procedure listed below and in Figure A should be followed in the installation of this unit:

(a) A paper template of the mounting holes is shipped with each SB-31 Shelf. Locate the two bottom holes 44 inches from the floor. Drill for the proper type fasteners as specified in the BSP Section on fasteners using 1/4" to 3/8" diameter bolts.

(b) Remove the three plastic light diffusers from the steel backboard. Each of these is secured with 2 #10 sheet metal screws.

(c) Remove the two flourescent lamps from the steel backboard.

(d) Position the subset mounting bracket on the wall side of the

masonite backboard so that the two lower mounting bolts pass throught the bracket holes. Mount the SB-31 Shelf with six appropriate fasteners through the large holes in front of the steel backboard and through the holes in the plastic shell and masonite backboard.

(e) Replace the flourescent lamps.

(f) Replace the three plastic diffusers.

(g) Pull the telephone wiring through the channel in the steel backboard by dropping the wires through hole "A", as seen on Figure A, and out the hole in the bottom of the shelf and through the subset bracket.

(h) Mount the coin collector to the steel backboard using the mounting screws furnished.

(i) Mount a 685 type subset underneath the subset bracket.

(j) Make all necessary connections in the coin collector and subset.

(k) Place a directory in the space provided. It is not intended that a directory binder chain be used at this coin telephone.

6. WIRING

A. ELECTRIC LIGHT WIRING

6.01 The electrical wiring for the lights in this shelf may be completed when the SB-31 Shelf has been wall mounted.

6.02 The electric light wiring shall be provided by the customer or the Telephone Company. The Commercial Department Representative will determine and indicate on the service order whether or not the Company will bear the expense of electric wiring. Where provided by the Telephone Company, the Plant Department shall be responsible for the wiring arrangements. This wiring shall conform to the rules and regulations of the National Electric Code and any supplemental local rules and regulations.

6.03 The wiring for the lights should be brought in through the bottom of the Shelf in the access hole to the right of the telephone wire entrance. The writing shelf and the ballast box cover (in the rear of the directory space) are removable. It is only necessary to remove the ballast box cover for access to the light wiring and the wire entrance. The electrical connections can then be made and stored within the ballast box. The ballast box cover is to be secured in place upon completion of this wiring.

B. TELEPHONE WIRING

6.04 The telephone wiring shall be done in accordance with existing instructions in the B.S.P.s.

7. SIGNS

7.01 The need for telephone signing of this type coin telephone mounting can best be determined locally to fit each situation. Signs, if used, should not detract from this installation.

8. MAINTENANCE

8.01 A periodic survey of the SB-31 Shelf should be made and the following steps performed:

(a) Replace burned out floures-cent tubes as required.

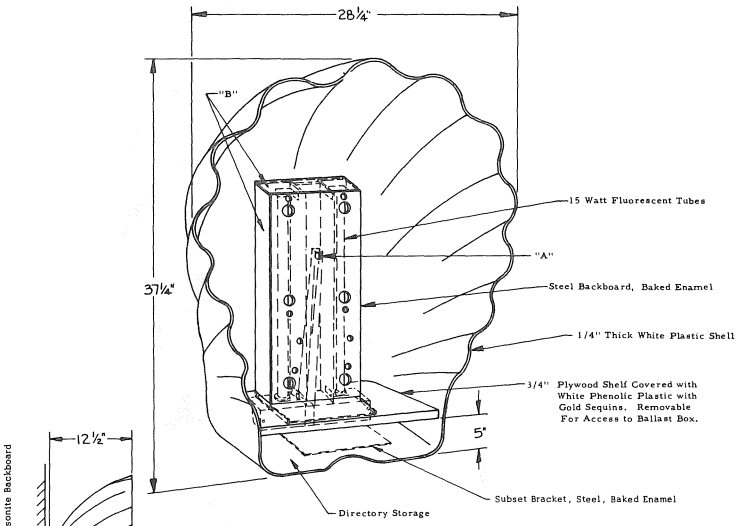
(b) Check condition of the directories, directory binders, instruction cards, and coin collector. Take the required action to insure a good appearance.

(c) Make all tests on coin collector equipment for routine purposes in accordance with standard practices.

(d) Check the approach to this installation and remove all hazards.

(e) Check for and replace badly cracked or broken parts.

8.02 The plastic parts of this Shelf can be cleaned using a soft cotton cloth with water and mild ungranulated household detergents.



INSTALLATION PROCEDURE

1. The SB-31 Shelf is shipped assembled and ready for installation.
2. A template of the mounting holes is shipped with each SB-31 Shelf. Locate the two bottom holes 44 inches from the floor. Drill for the proper type fasteners as specified in the RSP section on fasteners.
3. Remove the three plastic light diffusers "B" from the steel backboard.
4. Remove the two fluorescent lamps.
5. Position the subset mounting bracket on the wall side of the masonite backboard so the two lower mounting bolts pass through the bracket holes. Mount the SB-31 Shelf with six appropriate fasteners through the large holes in front of the steel backboard and through the holes in the plastic shell and masonite backboard.
6. Replace the fluorescent lamps.
7. Replace the three plastic diffusers.
8. Pass the telephone wire through hole "A", down through the channel in the light shaft and ballast box and out through the hole in the bottom of the shelf and through the subset bracket.
9. Mount the coin collector to the steel backboard using the mounting screws furnished.
10. Mount the subset underneath the subset bracket.
11. Make all necessary connections in the coin collector and subset.

SB-31 SHELF	
SOUTHERN BELL TEL. & TEL. CO.	
NOT TO SCALE	ATLANTA, GEORGIA — May, 1960

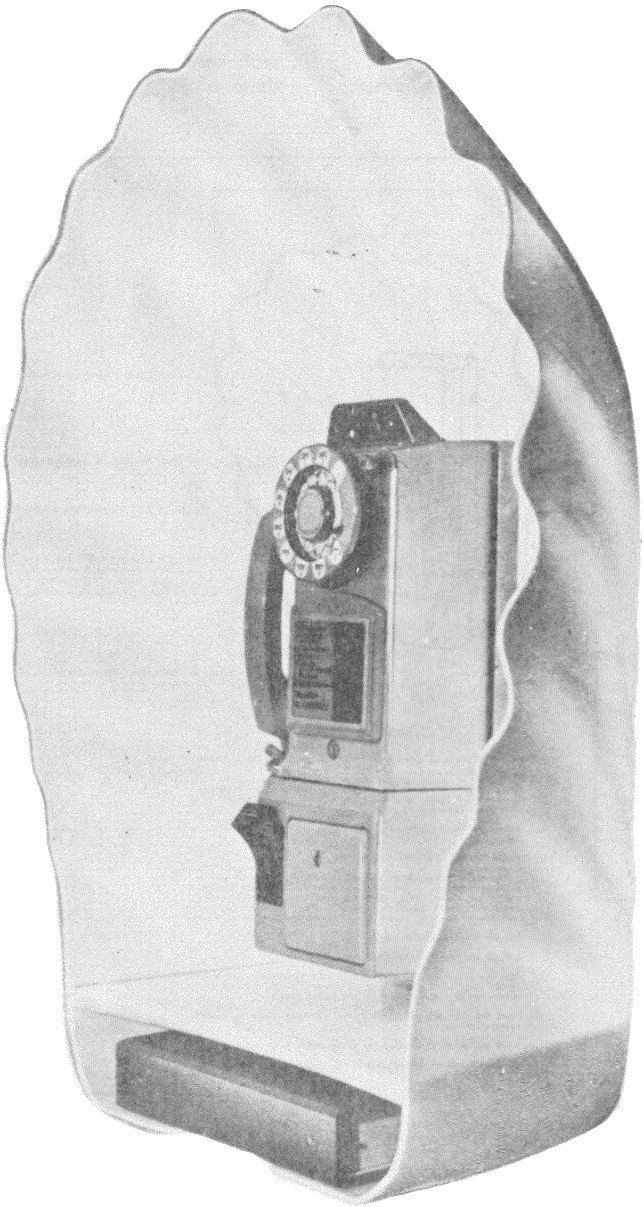


FIG. B SB-31 SHELF

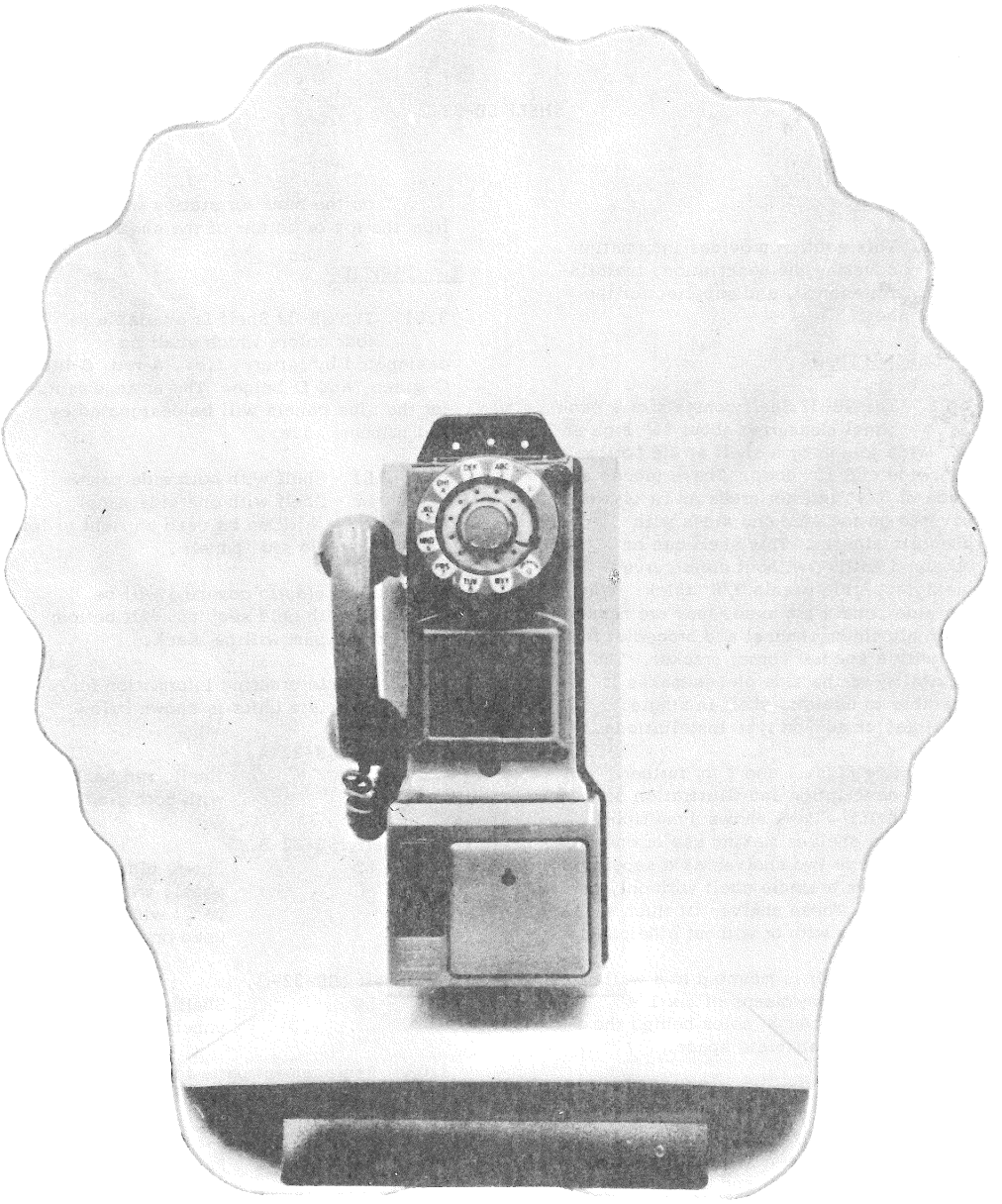


FIG. C SB-31 SHELF

SHELF SB-32

1. GENERAL

1.01 This section provides information covering the description, installation, maintenance, and supplies for the SB-32 Shelf.

2. DESCRIPTION

2.01 The SB-32 Shelf consists of a back panel measuring about 25" high and 22" wide joined by a shelf at the bottom 22" wide and 10" deep. These pieces are made of 3/4" interior grade AA fir plywood covered on the face and sides with phenolic plastic. This shelf can be obtained with or without clear curved plexiglass side panels 3/8" thick. Where the side panels are used, they are mounted in an aluminum channel and braced at the top with a special corner bracket. The flexibility of the side pieces makes it possible to use this shelf in single, multiple, or add-on type installations.

2.02 See Figs. 1 and 2 for further description and illustration of the SB-32 Shelf. Fig. 1 shows a multiple unit of two shelves making use of one side panel to serve two shelves as a separator. Fig. 2 shows a single shelf with only one side panel. These shelves fit flush side by side either with or without side panels.

2.03 The Shelf is mounted to a wall surface by means of six 1/4" diameter countersunk holes behind the coin collector backplate space.

2.04 The coin collector is mounted on the back panel which has been equipped with 8 1/4 x 20 4 prong staple nuts which have been inserted from the rear of the back panel and countersunk for flush wall mounting.

2.05 The back panel is grooved vertically on the back for station wire access from the top or bottom of the shelf.

3. SUPPLIES

3.01 The SB-32 Shelf is available in four colors which shall be designated by letters, i.e., A-red, B-black, C-green, and D-beige. The arrangements for the side panels will be designated by list numbers, i.e.,

L1 - Shelf with both side panels,
L2 - Shelf with one side panel (Can be used on right or left),
L4 - No side panels.

All phenolic plastic covering will be decorated with gold sequins. All bottom shelves and trim will be black.

3.02 Sample ordering information for complete units is shown below:

Shelf, SB-32-A, L1	Shelf, red back panel, with both side panels.
Shelf, SB-32-B, L2	Shelf, black back panel, with one side panel which may be used on right or left.
Shelf, SB-32-C, L4	Shelf, green back panel, no side panels.

3.03 Replacement parts for this type shelf are listed as follows:

Panel, back, SB-32, L-11 (A)	Red (or color designated by code letter following list number) back panel.

Shelf, bottom, SB-32, L12	Bottom shelf. Available only in black.
Panel, side, plexiglass, SB-32, L13	Clear plexiglass side panel, used on either right or left side, pre-drilled.
Channel, aluminum, SB-32, L14	Polished aluminum channel to be used with plexiglass side panel listed above. Drilled and countersunk. Used on right or left side.
Bracket, steel, SB-32, L15	5" right angle steel bracket used to support bottom shelf and help join bottom shelf to back panel. May possibly be obtained locally as 5" Stanley #PS997 plain steel corner braces. Two of these are required.
Bracket, corner, "Pleximatic" SB-32, L16	Right hand bracket for giving additional support at top of plexiglass side panel where it joins the back panel. Fits snugly over plexiglass. Drilled and countersunk for fastening to top of back panel.
Bracket, corner, "Pleximatic" SB-32, L17	Left hand bracket same as L16 above.

4. LOCATING

4.01 A Telephone Company representative from the Commercial Department will generally:

(a) Select a location and arrange for its clearance in time for the delivery of this shelf.

(b) Furnish complete information to the Plant Department for the preparation of orders for the SB-32 Shelf installation.

4.02 The SB-32 Shelf or shelves shall be located generally indoors on a wall which is easily accessible and on a place on the wall where the shelf can be readily seen.

4.03 This shelf may also be used outdoors in well lighted and protected locations under cover of a roof.

5. INSTALLATION

A. ASSEMBLY OF THE SB-32 SHELF

5.01 The SB-32 Shelf is shipped unassembled and should be assembled prior to mounting in accordance with the following steps: (See Fig. 2 for parts)

1. Fasten back panel to bottom shelf with 4 1-1/2" #9 F.H. wd. screws in pre-drilled and countersunk holes. Screws shall be placed from the rear of the back panel.

2. Fasten 2 right angle steel brackets in rabbited channels underneath the angle formed by the bottom shelf and the back panel. Use 5-5/8" #10 F.H. wd. screws in each angle bracket with 3 screws in the back panel and 2 in the front holes of the bracket underneath the bottom shelf.

3. Remove paper covering from plexiglass side panels. Caution: Plexiglass is subject to injury by dust and other abrasive particles during some cleaning procedures. Where cleaning of the side panels is required, use soft cotton cloth with water and mild ungranulated household detergents.

4. Insert plexiglass side panel in polished aluminum channel.

5. Install the plexiglass and aluminum channel assembly on side to have side panel. Use 5 1-1/2" #9 chrome plated F.H. wd. screws to fasten each side panel assembly to the assembly of the bottom shelf and back panel. The holes in the wooden assembly at this point are not pre-drilled since some of these shelves will be used without side panels.

B. MOUNTING OF THE SB-32 SHELF

5.02 The shelf should be located on a wall so that the bottom edge shall be 41 inches above the telephone user's grade level.

5.03 The back panel has six countersunk mounting holes. These should be used to mark the location on the wall where the shelf is to be fastened. Use the suitable fastener for the type of wall on which the shelf is to be mounted using at least a 1/4" diameter steel fastener.

5.04 Mount the shelf to the wall.

5.05 Install the coin collector.

5.06 Install the subscriber set underneath the bottom shelf.

5.07 Where a directory binder chain is used, fasten the chain mounting plate underneath the bottom shelf so that the directory will rest on the shelf.

6. MAINTENANCE

6.01 A periodic survey of the SB-32 Shelf should be made and the following steps performed:

(a) Check the condition of the directories, directory binders, instruction cards, and coin collector. Where necessary, take the required action to assure good appearance.

(b) Check the approach to the shelf or shelves and remove all hazards.

(c) Check for and replace all broken parts.

(d) For cleaning, use soft cotton cloth with water and mild ungranulated household detergents. Other cleaning procedures will probably damage the plexiglass side panels.

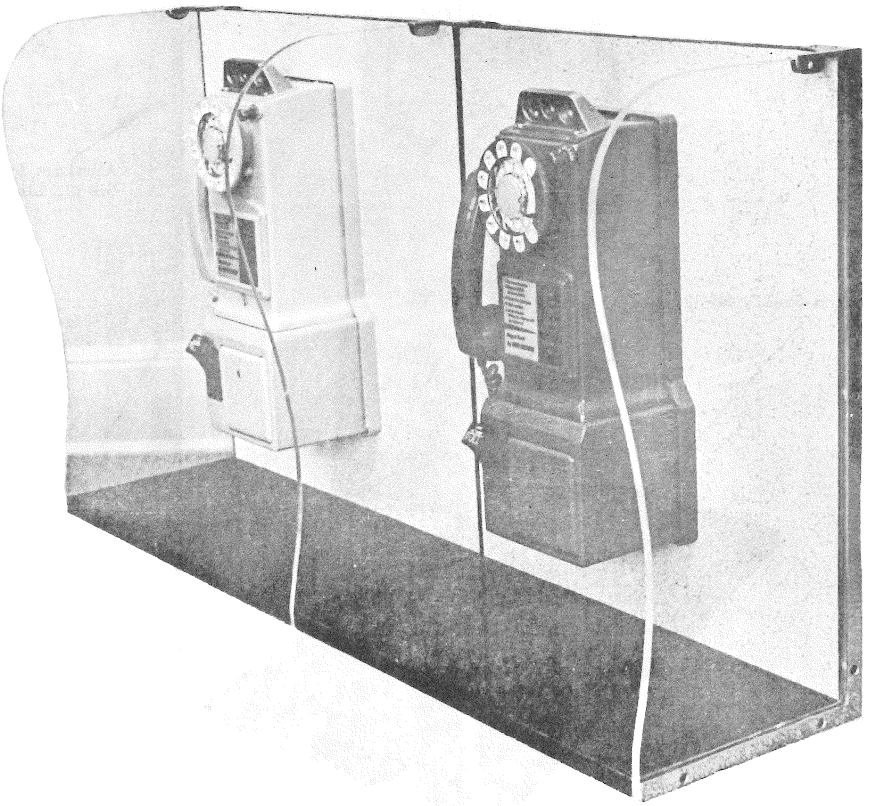
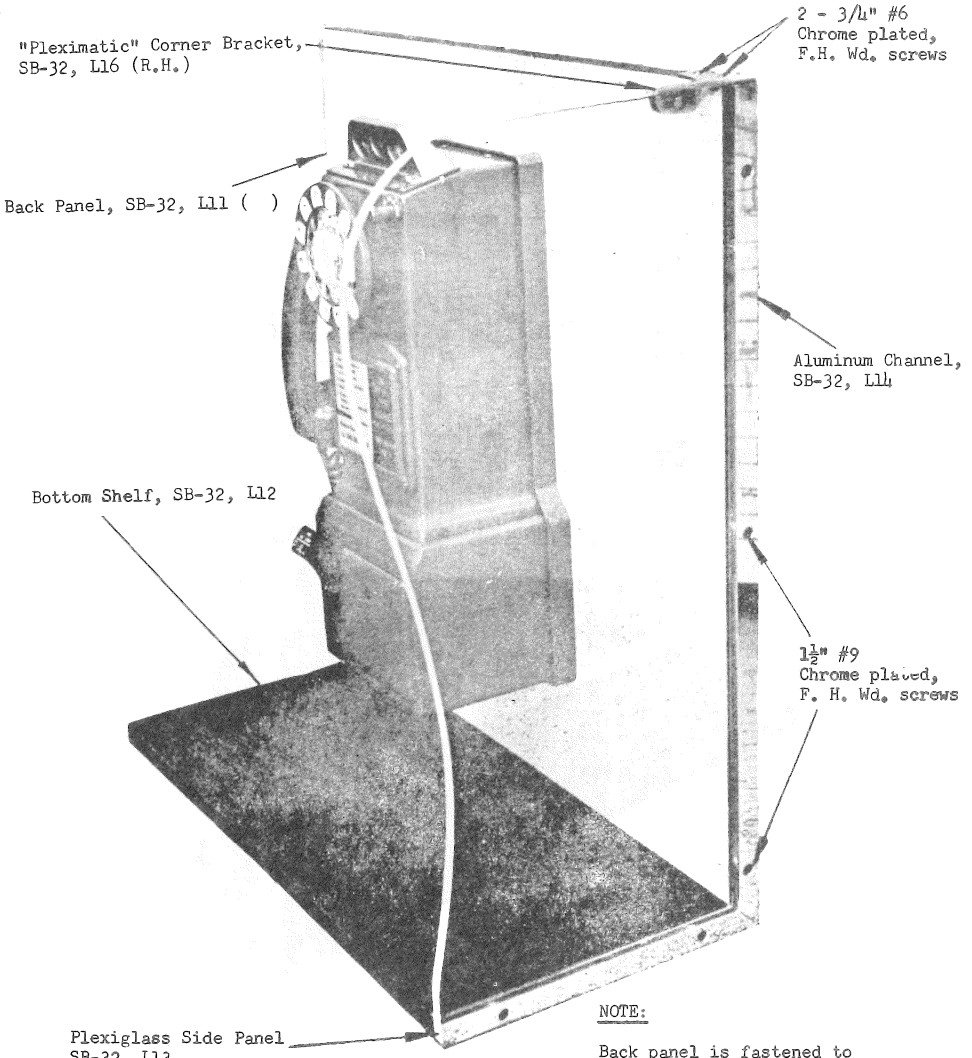


FIGURE 1

Shelf SB-32 - 1-L1 and 1-L2


"Pleximatic" Corner Bracket, SB-32, L16 (R.H.)
2 - 3/4" #6 Chrome plated, F.H. Wd. screws
Back Panel, SB-32, L11 ( )
Aluminum Channel, SB-32, L14
Bottom Shelf, SB-32, L12
1½" #9 Chrome plated, F. H. Wd. screws
Plexiglass Side Panel SB-32, L13

NOTE:

Back panel is fastened to bottom shelf with 4 - 1 1/2" #9 F.H. wd. screws. Then 2 right angle steel brackets are added in rabbited channels using 5 - 5/8" #10 F.H. wd. screws in each bracket (3 in back panel, 2 in bottom shelf front 2 holes only.)

FIGURE 2

Shelf SB-32 - L2

SHELF SB-33

1. GENERAL

1.01 This section provides information covering the description, installation, connection, maintenance, and supplies for the SB-33 Shelf.

1.02 This shelf was designed for use as follows:

a. As a single unit in the corner of a room where the corner is square. See Fig. 1.

b. Two units on a wall where a side panel of one shelf would be jointed to the side panel of another shelf of the SB-33 type. See Fig. 2.

c. In a circular cluster of four to be pedestal mounted. See Fig. 3.

2. DESCRIPTION

2.01 The SB-33 Shelf is a corner type shelf consisting of two vertical side panels joined at a right angle and provided with a horizontal shelf at the bottom. The side panel measurements are about 25" high and 15" wide. The shelf is about 15" deep and has an 8" radius curve on its rounded corner. A backboard patterned after the standard 167 type is provided for mounting the coin collector in the right angle of this shelf. These pieces are made of 3/4" interior grade AA fir plywood covered on the face and sides with phenolic plastic.

2.02 A wire groove is provided on the back of one side panel for concealed wiring.

2.03 The subscriber set for this coin telephone mounting is to be mounted underneath the bottom shelf.

3. SUPPLIES

3.01 The ordering information for the SB-33 Shelf is listed below. All trim and all writing shelves (bottom shelves) are black. All the plastic covering material is decorated with gold sequins.

Shelf, SB-33-A	Shelf with red side panels.
Shelf, SB-33-B	Shelf with black side panels.
Shelf, SB-33-C	Shelf with green side panels.
Shelf, SB-33-D	Shelf with beige side panels.
Pedestal, SB-33, L16	Black finish, steel pipe (approx. 4" inside diameter) with special flange at top and bottom. To be used with quadruple shelf mounting in a circular cluster where a suitable anchoring facility is available. See Fig. 8.

3.02 The ordering information for the SB-33 Shelf replacement parts is as follows:

Panel, SB-33-( ), L11	Right side panel, with color designated by code letter in parenthesis, i.e., A-red, B-black, C-green, and D-beige. Has angled groove on back for wire run. See Fig. 4.

Panel, SB-33-( ), L12	Left side panel, with color designated by code letter in parenthesis. See Fig. 4.
Shelf, bottom, SB-33, L13	Bottom shelf or writing shelf, available only in black. See Fig. 4.
Board, mounting, SB-33-( ),L14	Backboard for mounting coin collector. Color to be designated by code letter in parenthesis. This item can be replaced by the 167 type backboard. See Fig. 4.
Bracket, steel, SB-32, L15	(This item is used with both the SB-32 and SB-33 type shelves.) A 5" right angle steel bracket used to support bottom shelf. May possibly be obtained locally as 5" Stanley #PS 997 plain steel corner braces. Two of these are required per shelf. See Fig. 6.
Cover, 3/4", SB-33, L17	Round metal cap used to plug 3/4" diameter hole in top of quadruple mounting when wiring from the top is not used. See Fig. 9.
Coupling nut, SB-33, L18	1/4" #20 x 5/8" truss head, st. M/S plated coupling nut with 2 chromed screws, slot head. Used to join side panels of 2 SB-33 shelves. Four of these are required per side panel pair. See Fig. 6.

3.03 The ordering information on the material to be used to anchor one pedestal, SB-33, L16 in concrete is listed below. This material must be ordered separately.

8 - Shield, expansion, double keystone diamond, 2 x 3/8 in.

8 - Bolt, machine, 16 hexagonal head, 2 1/2 in. x 3/8 in.

8 - Lockwashers for 3/8" bolt, (obtain locally).

4. LOCATING

4.01 The SB-33 Shelf shall be so located that:

a. It is easily accessible to the public.

b. The approach is free from hazards.

c. The area is lighted sufficiently for dial-type coin collector use.

d. It is remote from radiators, steam pipes, or registers to prevent damage to the shelf or apparatus from excessive heat or water.

e. Mountings shall not be exposed to the weather.

4.02 A Telephone Company representative from the Commercial Department will generally:

a. Select a location and arrange for its clearance in time for the delivery of the SB-33 Shelf equipment. The selection of this location shall be in accordance with Para. 4.01 above.

b. Furnish complete information to the Plant Department for the preparation of orders for the SB-33 Shelf installation.

4.03 If location specified conflicts with requirements outlined, the supervisor should be notified and special instructions received before installation is started.

5. INSTALLATION

5.01 The following installation procedures are listed below for one corner mounted SB-33 Shelf as per Fig. 1:

a. Assemble the SB-33 Shelf in accordance with the following steps.

1. Assemble the two side panels and the bottom shelf as shown in Fig. 4. Do not attach the triangular mounting board at this stage of assembly.

2. Attach the 2 - 5" right angle steel brackets as mentioned in Fig. 5 and as seen in Fig. 6.

b. The bottom edge of the assembly as seen in Fig. 5 shall be 41" above the telephone user's grade level.

c. There are 4 mounting holes in each side panel which are to be used for fastening this unit to the wall in a right angle corner. Hold this unit at the height mentioned in (b) and mark on the walls the location of these 8 holes. Suitable fasteners should be used for mounting this unit to the wall as specified in the BSP section on fasteners.

d. Run telephone wires in groove in back of side panel and pull through wire access hole as shown in Fig. 5.

e. Install the triangular shaped mounting board in the pre-drilled holes. See Fig. 1 and Fig. 5. The bottom of this mounting board will be about 4" above the bottom shelf.

f. Mount the coin collector.

g. Install the subscriber set underneath the bottom shelf.

h. Where a directory binder chain is used, fasten the chain mounting plate underneath the bottom shelf.

5.02 The following installation procedures are listed below for mounting two SB-33 Shelves on a wall as per Fig. 2:

a. Repeat 5.01 (a) 1 and 2.

b. Fasten 2 side panels of the shelves as shown in Fig. 6 using 4 coupling nuts and 8 screws furnished with the coupling nuts. (Note: A set of 4 coupling nuts with screws is furnished with each SB-33 Shelf.)

c. The bottom edge of the assembly, as seen in Fig. 6, shall be 41" above the telephone user's grade level.

d. When 2 SB-33 Shelves are used as a dual unit, as shown in Fig. 6, the coupling nuts will not be used on the back surface in the mounting of this assembly to the wall. Regular fasteners shall be used depending upon the type of wall material at the location. Four suitable fasteners shall be used in the wall mounted panel of each SB-33 Shelf.

e. Pull in telephone wires in the wire groove and wire access hole of each shelf.

f. Mount the triangular mounting board in each shelf. The 6 holes for mounting this piece are

especially drilled so that the mounting screws will be perpendicular to the side panels. All holes are pre-drilled for this operation.

g. Mount the coin collectors.

h. Mount the subscriber sets underneath the bottom shelf of each unit.

i. Where a directory binder chain is used, fasten the chain mounting plate underneath the bottom shelf.

5.03 The following installation procedures are listed below for installing 4 SB-33 Shelves on a pedestal as seen in Fig. 3:

I. Installation of the Pedestal, SB-33, L16 as seen in Fig. 8.

a. Place the pedestal in the position where it will be mounted. Mark on the floor the position of the 8 holes in the bottom plate. Drill a 3/4" diameter 2 1/2" hole in the concrete at each of these points. All 8 anchors are needed.

b. Place a double keystone expansion shield in each hole (threaded end down).

c. (1) If the wires for the 4 coin collectors are to be brought in through or across the floor, they should be pulled in at this point and pulled up through the pedestal pipe. The hole in the exact center of the cross pieces is to be used only as an aid for pulling in wire. Do not leave wire pulled through this hole. Wires are to be brought out the 1/2" holes in the pipe underneath the top arms.

(b) If the wiring is to be brought down from the ceiling, a 3/4" thin wall conduit can be used to drop down into the center of the 4 unit cluster. The bottom of this conduit should come down to 65 3/4 inches above the floor level. This will fit into the 3/4" hole and allow the telephone wires to be pulled into the wire groove of each unit.

d. Place the pedestal in position and bolt it to the floor using the 3/8" bolts and lockwashers. A hexagonal bolt is used here and a wrench is required. (Use a KS-14962 wrench or equivalent).

II. Completion of the installation after the pedestal is anchored.

a. Repeat Paragraph 5.01 (a) 1 and 2.

b. Repeat Paragraph 5.02 (b) twice as shown in Fig. 7.

c. Place the two assemblies shown in Fig. 7 on top of the pedestal as shown in Fig. 8 and fasten them together as per Fig. 9.

d. Line up the back edge of the wire groove in each shelf with the center of the 1/2" hole in each arm of the top plate.

e. Attach the SB-33 Shelves to the top plate using 6 - 3/4" #10 F.H. steel wood screws in each arm of the top plate. Do not use brass screws at this point.

f. Install the triangular mounting boards in each unit as per Paragraph 5.02 (f).

g. Mount the coin collectors.

h. Mount the subscriber set for each c.c. underneath the bottom shelf for that unit.

i. Where a directory binder chain is used, fasten the chain mounting plate underneath the bottom shelf.

6. MAINTENANCE

6.01 A periodic survey of the SB-33 Shelf (or Shelves) should be made and the following steps performed:

a. Check condition of the directories, directory binders, instruction cards, and coin collector. Where necessary, take the required action to assure good appearance.

b. Check the approach to the SB-33 Shelf, and remove all hazards.

c. Where parts of the Shelf are damaged, the broken parts should be replaced.

6.02 Where cleaning of the shelf is needed, use a soft cotton cloth with water and mild ungranulated household detergents.

6.03 When the pedestal needs repainting, use a good grade of black enamel.

FIG. 1 1 - SB-33 SHELF, CORNER MOUNTED.

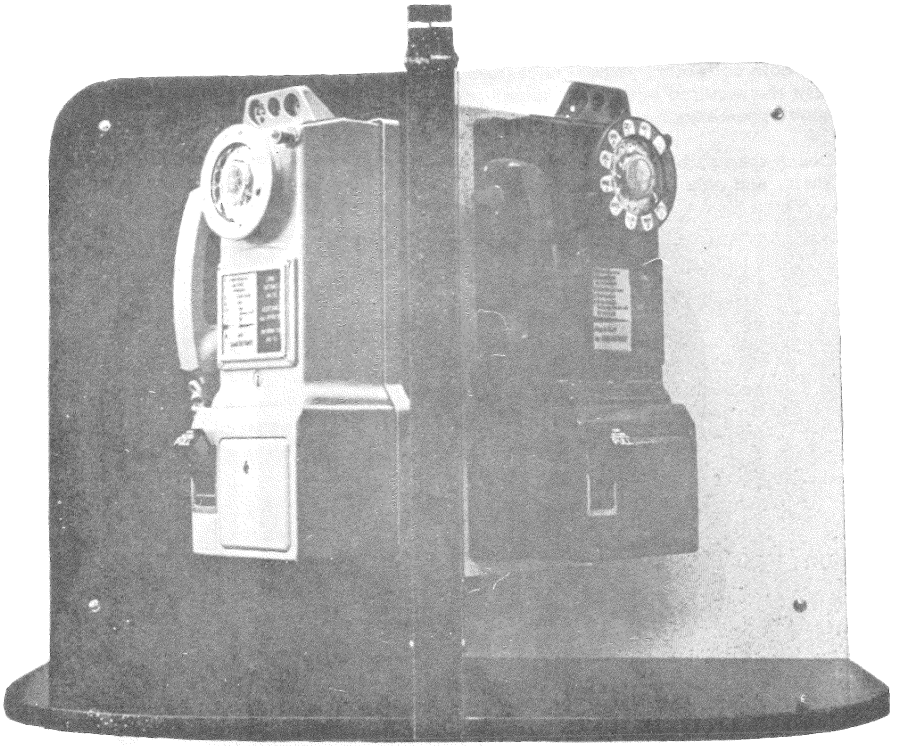


FIG. 2 2 - SB-33 SHELVES, WALL MOUNTED.

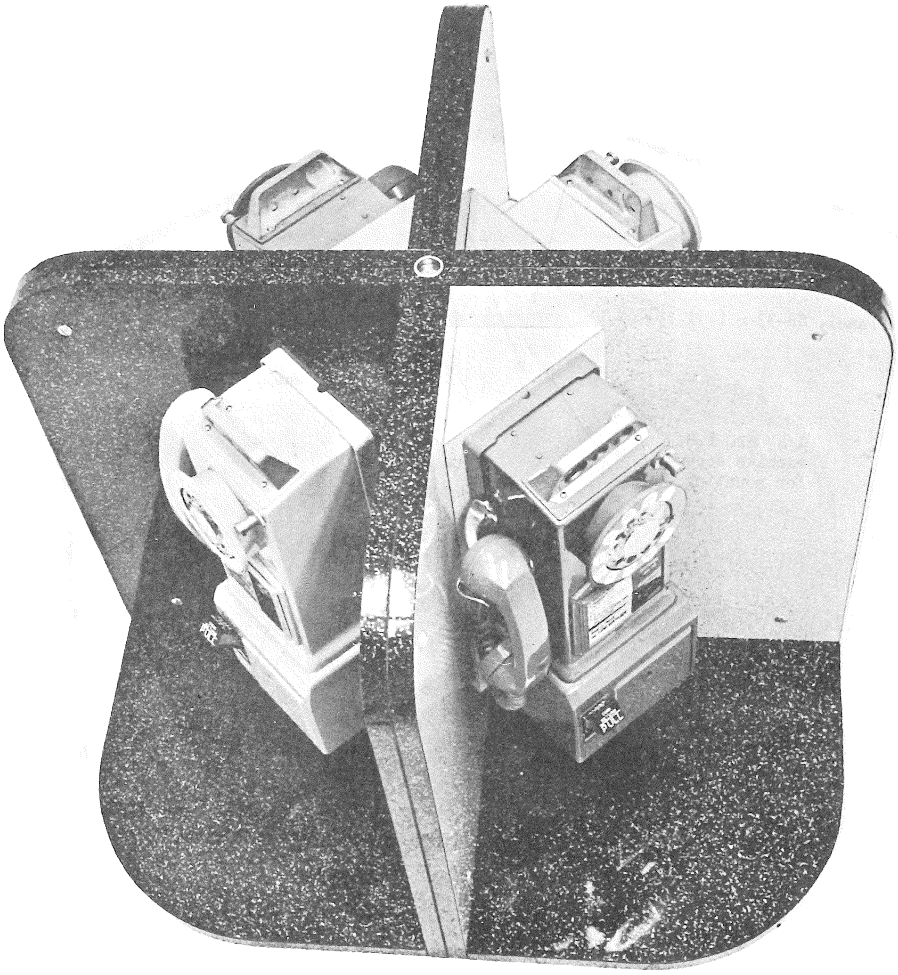


FIG. 3 4 - SB-33 SHELVES MOUNTED ON A PEDESTAL.

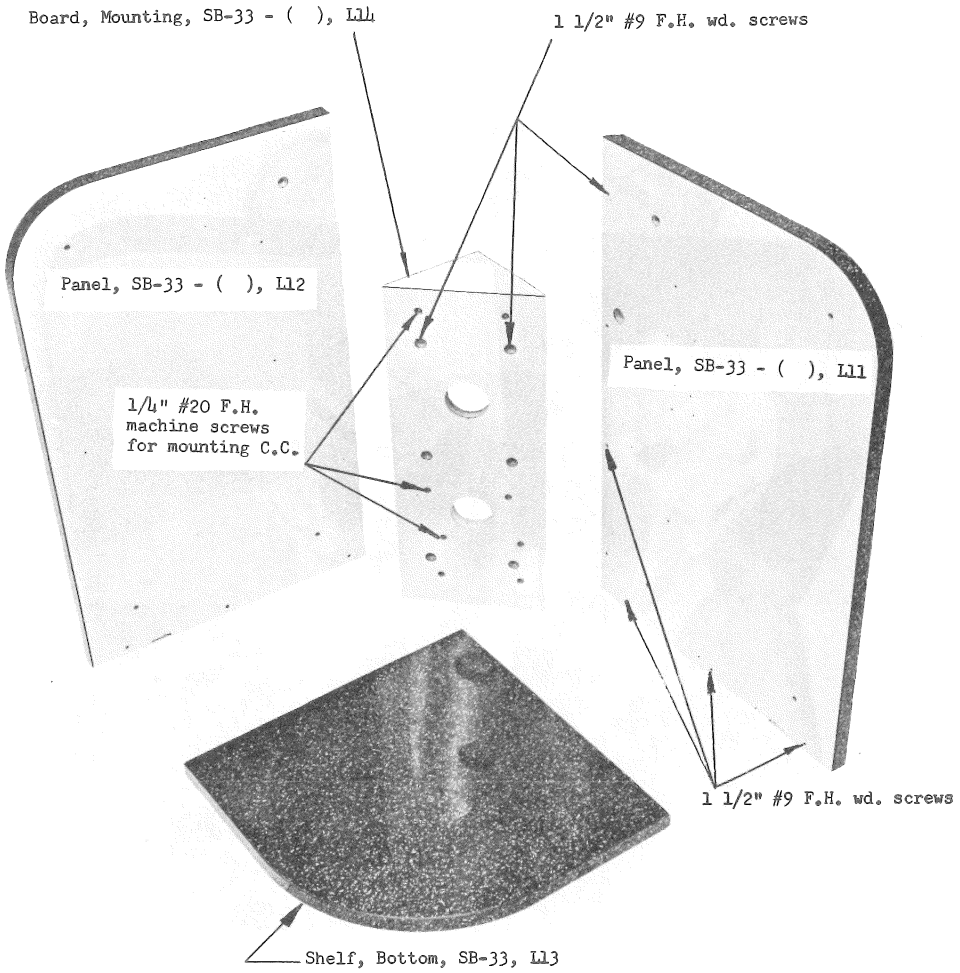
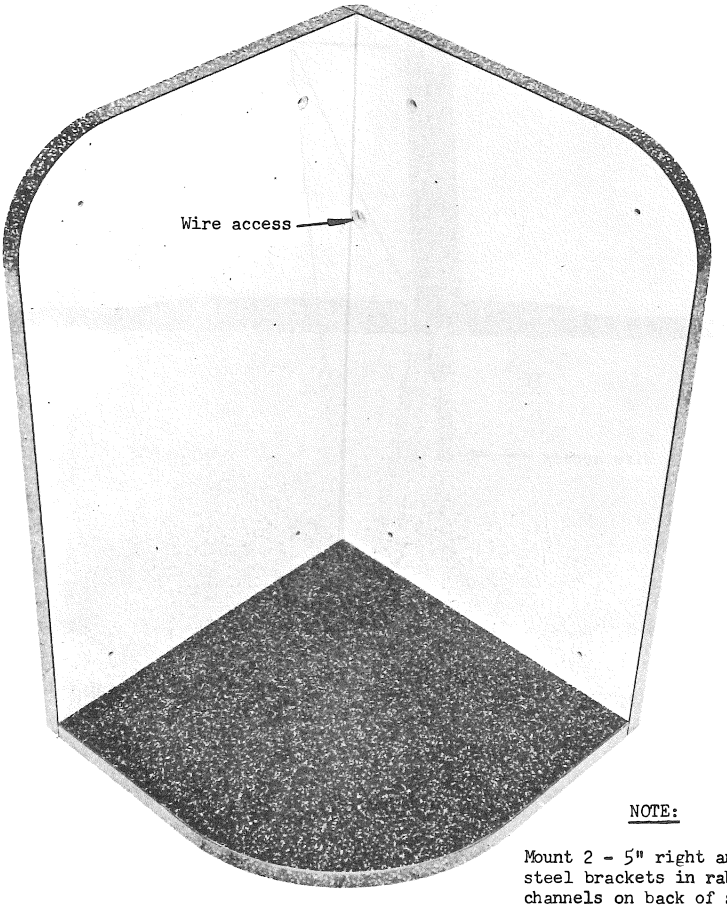

Board, Mounting, SB-33 - ( ), L14
1 1/2" #9 F.H. wd. screws
Panel, SB-33 - ( ), L12
1/4" #20 F.H.
machine screws
for mounting C.C.
Panel, SB-33 - ( ), L11
1 1/2" #9 F.H. wd. screws
Shelf, Bottom, SB-33, L13

FIG. 4 ASSEMBLY STEP # 1



NOTE:

Mount 2 - 5" right angle steel brackets in rabbited channels on back of side panel and underneath shelf. Use 5 - 5/8" #10 F.H. wood screws in each angle bracket, 3 in side panel, 2 in front 2 holes underneath shelf.

FIG. 5 ASSEMBLY STEP # 2

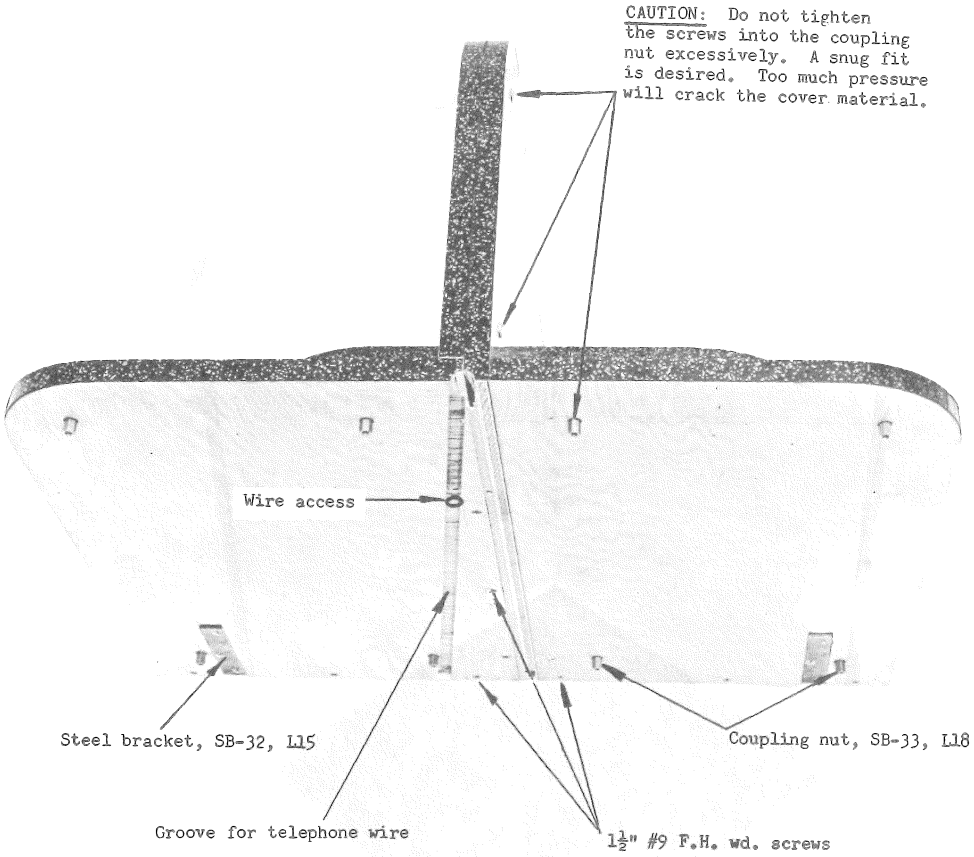

CAUTION: Do not tighten the screws into the coupling nut excessively. A snug fit is desired. Too much pressure will crack the cover material.
Wire access
Steel bracket, SB-32, L15
Groove for telephone wire
Coupling nut, SB-33, L18
1½" #9 F.H. wd. screws

FIG. 6 ASSEMBLY STEP # 3

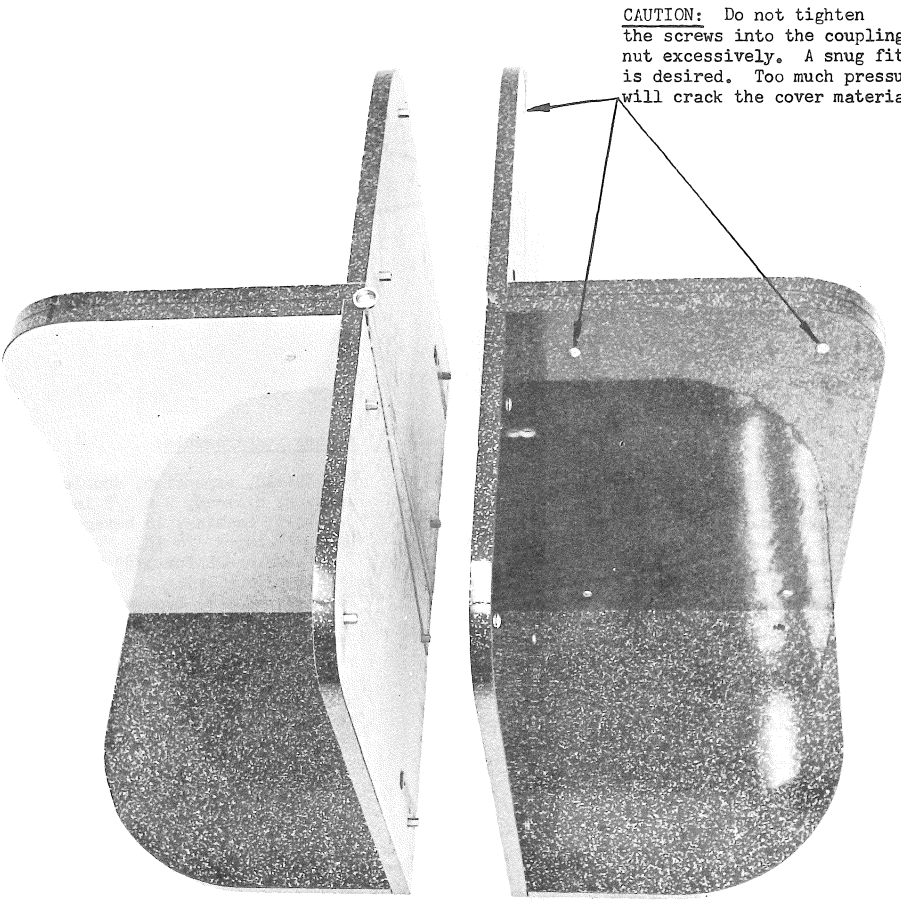
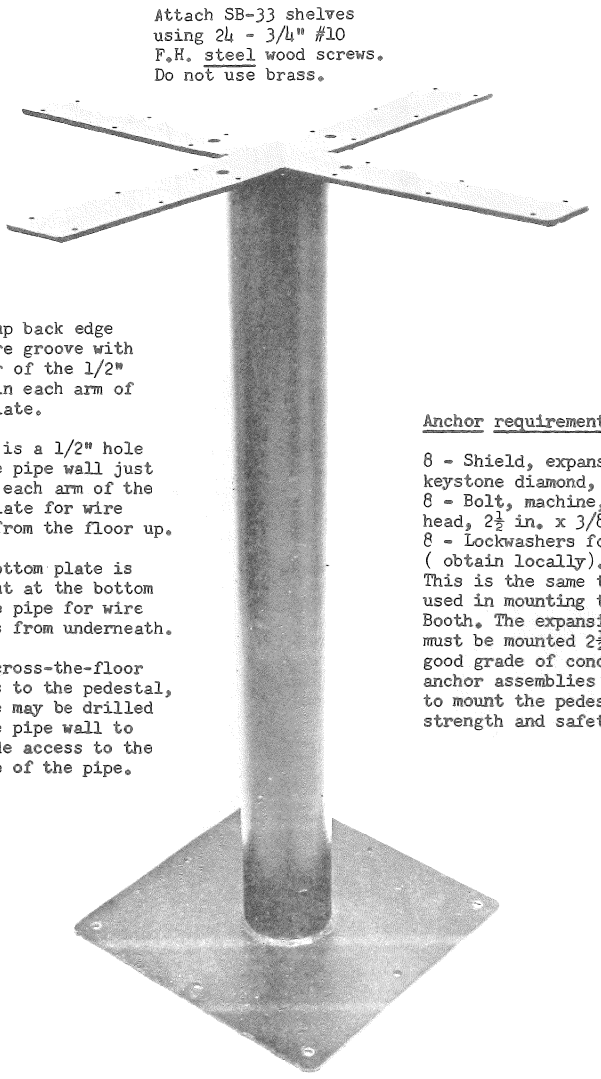

CAUTION: Do not tighten the screws into the coupling nut excessively. A snug fit is desired. Too much pressure will crack the cover material.

FIG. 7 ASSEMBLY STEP # 4



NOTES:

1. Line up back edge of wire groove with center of the 1/2" hole in each arm of top plate.
2. There is a 1/2" hole in the pipe wall just below each arm of the top plate for wire runs from the floor up.
3. The bottom plate is cut out at the bottom of the pipe for wire access from underneath.
4. For across-the-floor access to the pedestal, a hole may be drilled in the pipe wall to provide access to the inside of the pipe.

Anchor requirements:

8 - Shield, expansion, double keystone diamond, 2 x 3/8 in.
8 - Bolt, machine, 16 hexagonal head, 2½ in. x 3/8 in.
8 - Lockwashers for 3/8" bolt, (obtain locally).
This is the same type material used in mounting the KS-14611 Booth. The expansion shields must be mounted 2½" deep in a good grade of concrete. Eight anchor assemblies are required to mount the pedestal for maximum strength and safety factor.

FIG. 8 PEDESTAL, SB-33, L16

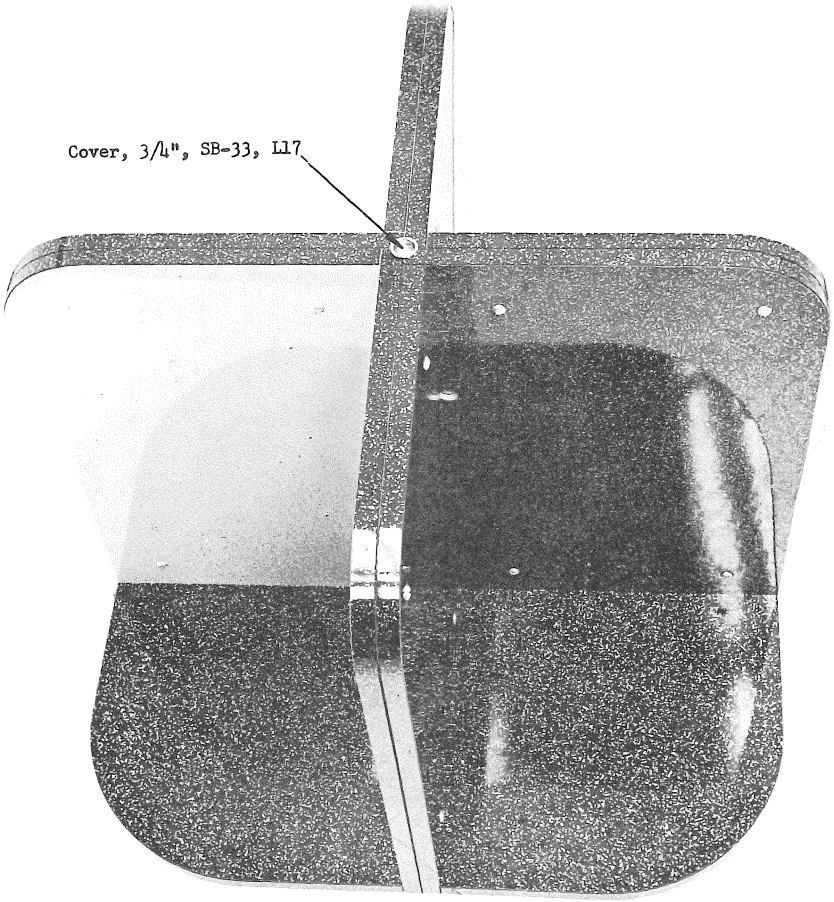


FIG. 9 ASSEMBLY STEP # 5

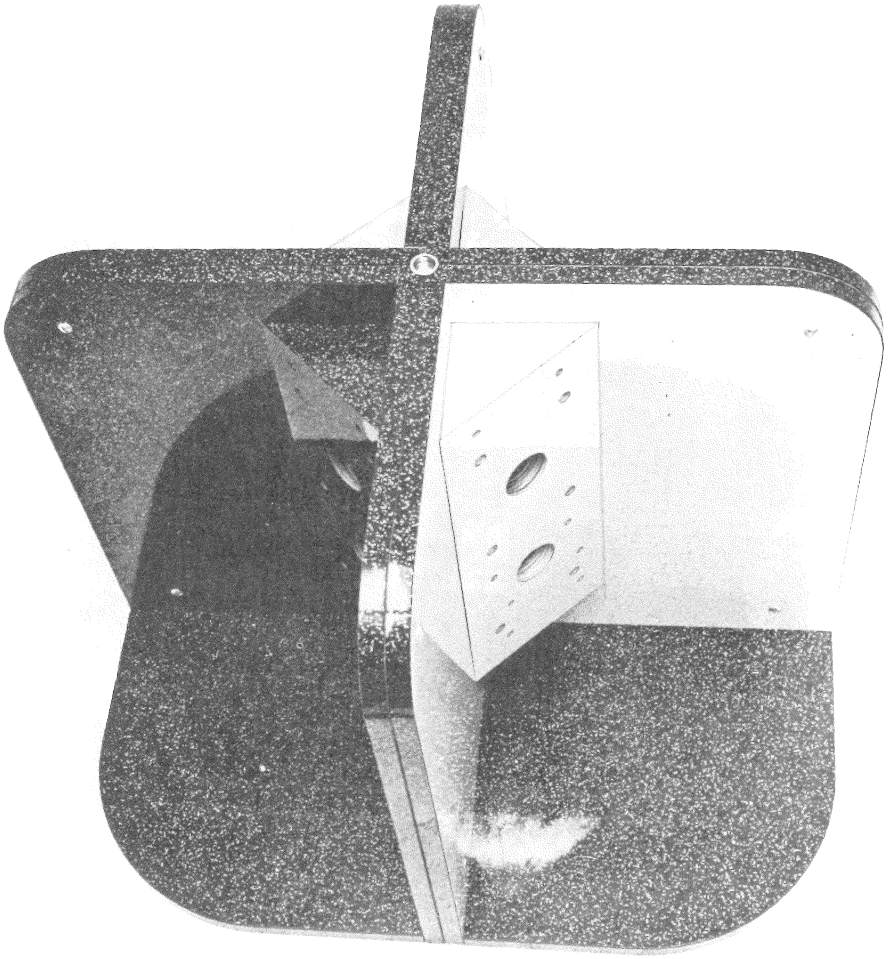


FIG. 10 ASSEMBLY STEP # 6

SB-35 SHELF

1. GENERAL

1.01 This section provides information covering the description, installation, maintenance and ordering information for the SB-35 Shelf.

1.02 This section is reissued to rate the SB-35, L1 & L2 Shelf "Additions and Maintenance Only" (A&M) and to add information on the SB-35, L3 & L4 Shelf.

1.03 The List 3 & List 4 Shelves differ from the List 1 & List 2 in total length and the elimination of the cutout in the rear of the writing shelf only. The List 3 & List 4 Shelves are approximately 3 inches longer so that the 1A1 Coin Telephone or the 200 Type Coin Collectors may be mounted. Only the 200 Type Collectors can be mounted in the List 1 & List 2 Shelves.

1.04 The SB-35, List 1 & List 2 Shelves are 24 inches high, 15 inches wide and 11 inches deep.

1.05 The SB-35, List 3 & List 4 Shelves are 27 inches high, 15 inches wide and 11 inches deep.

2. DESCRIPTION

2.01 The SB-35 Shelf consists of a back panel with two curved side panels, a writing shelf, and a directory shelf as shown in Figures 1,2 & 3. The assembly is made of 5/8 inch interior grade AA fir plywood covered with a formica type material.

2.02 This unit is shipped completely assembled. Due to the nature of its design no parts of this shelf can be replaced in the field.

2.03 The SB-35 Shelf is available in a walnut finish (List 1 & List 3), and in white with a gold speckled finish (List 2 & List 4).

2.04 The shelf is mounted to a wall surface by means of screws through six ¼" diameter countersunk holes behind the coin collector backplate space.

2.05 The coin collector is mounted to the SB-35 Shelf with eight 1¼" #14 F.H. wood screws which are furnished with each unit.

2.06 The back panel has a vertical groove on the back surface for station wire access from the top or bottom of the unit.

3. ORDERING INFORMATION

3.01 The ordering information for the SB-35 Shelf is as follows:

(Quantity) Shelf, SB-35, L1 (Walnut Finish)
(Quantity) Shelf, SB-35, L2 (White finish with gold specks)
} A&M ONLY

(Quantity) Shelf, SB-35, L3 (Walnut finish)

(Quantity) Shelf, SB-35, L4 (White finish with gold specks)

NOTE: Orders received for List 1 or List 2 Shelves will be filled with List 3 or List 4 Shelves respectively unless the order specifies "Do not substitute."

4. LOCATION

4.01 A Telephone Company representative from the Commercial Department will generally:

(a) Select a location and arrange for its clearance as required.

(b) Furnish complete information

to the Plant Department for the preparation of orders for the SB-35 Shelf installation.

4.02 The following requirements shall be met when locating the SB-35 Shelf:

(a) Location whould be easily accessible to the public.

(b) Approach to the Shelf shall be free of hazards such as a nearby staircase leading down, a trap door, or a floor in poor condition.

(c) Shelf should be away from radiators, steam pipes, or registers to prevent damage to the shelf or apparatus from excessive heat or water.

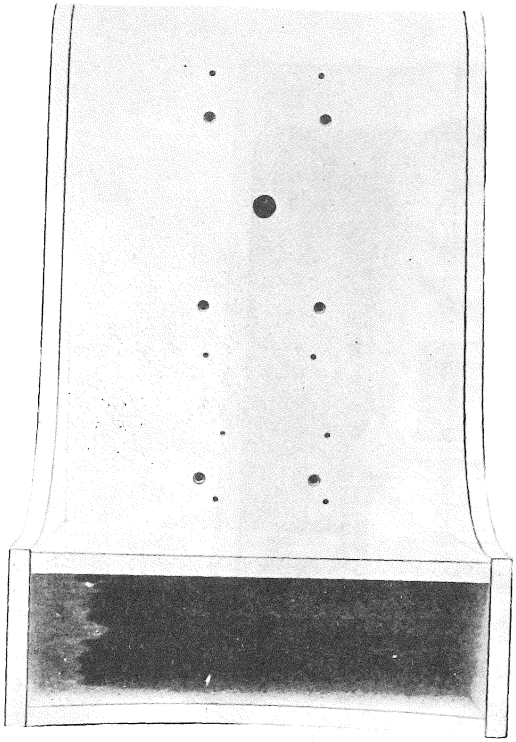
(d) Location should be adequately lighted for directory and dial use.

(e) Mountings of this type should not be exposed to the weather.

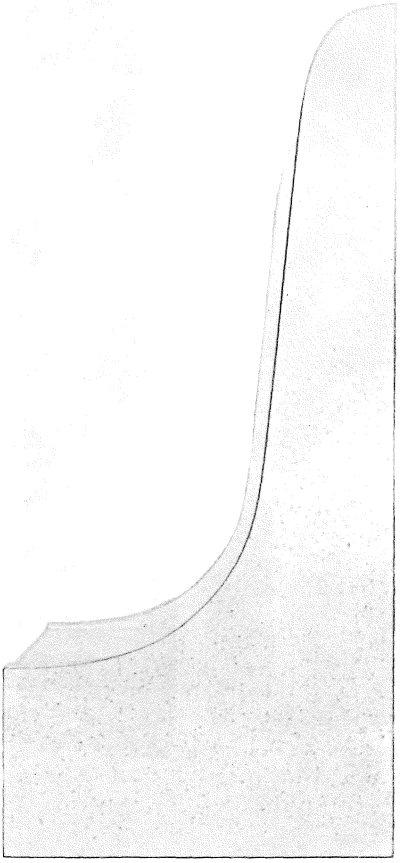
5. INSTALLATION

5.01 The SB-35 Shelf is shipped completely assembled and ready for installation.

5.02 The List 1 & List 2 Shelves should be located on a wall so that the TOP edge shall be 64½ inches above the telephone users grade level. The TOP of the List 3 & List 4 Shelves should be 67½ inches above grade level.



FRONT VIEW



SIDE VIEW

FIGURE 1
SB-35 Shelf, L2

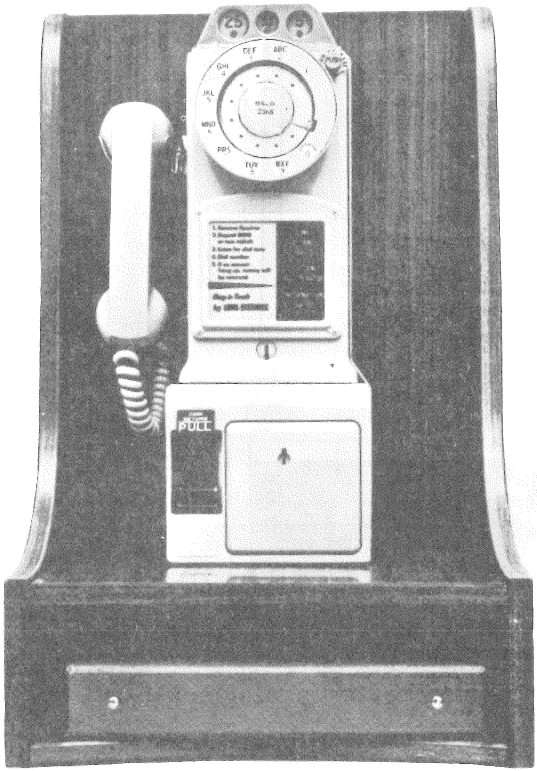
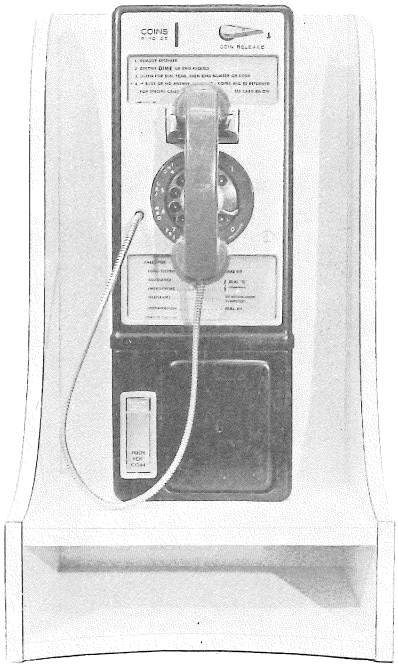
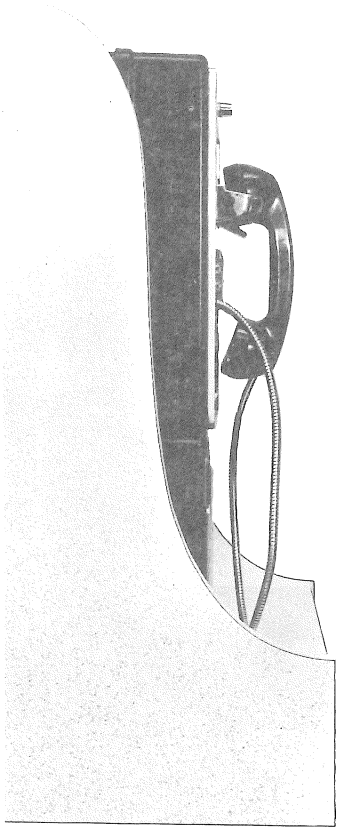


FIGURE 2
SB-35 Shelf, L1



FRONT VIEW



SIDE VIEW

FIGURE 3
SB-35 Shelf, L4